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ON THE IMPROVED HYGIENIC CONDITION OF MATERNITY HOSPITALS.[1]

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In the life of Madame de Staël, by Lady Blennerhasset, it is stated that when Madame Necker first came to Paris, "the capital, priding itself on every refinement of luxury, sufferers in hospitals were not even given separate beds, but, as they arrived, were added to the ranks and indifferently shared a bed with those on the road to recovery and those who were dangerously ill, the poorly or the dying, a patient with an infectious disease, or another merely temporarily indisposed. The most frightful scenes and fatal results were the daily consequence of this state of things in the dreadful refuges provided for earthly suffering. The unfortunate human race was sacrificed, under the very eyes of the nurses and doctors, in a way that, happily, is now unknown."

The period referred to was about 1770, and such a state of things has long since passed away in general hospitals as the result of enlightenment in hygienic arrangements. Of the maternity hospitals, we have no very accurate records for about the same period. The British Lying-in Hospital was instituted in 1749, and the General Lying-in Hospital, in York road, was founded in 1765. Statistics were, however, not then so accurately compiled as in later days, but there is no reason to think the maternity hospitals were better managed than the general ones, nor the English better than the French. If we look at the bills of mortality for the whole of London as far back as 1680, we find that for the 20 years ending at that date the average number of deaths in child-birth in London was 1 in 44; and then, as the result of greater care and better instruction in the obstetric art, the mortality gradually fell until for the 20 years ending 1820 the average mortality sank to 1 in 107.

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[1] From advance proofs furnished by our London Correspondent.

Looking at such records as are in existence of the mortality in maternity hospitals in the British Isles and abroad, we see a great diversity of results, not only in different hospitals, but in the same hospitals at different periods. Thus, in the Dublin Hospital, the average mortality of parturition and its consequences, from 1757 to 1832 was 1 in 93; in the maternity of Paris from 1799 to 1819 the mortality was 1 in 19. In the best year there, 1802, the mortality was only 1 in 115; in the worst year, 1819, it was as high as 1 in 8 women delivered. The statistics of the maternities in Vienna, Wurtemburg and Prussia give approximately like results for about the same period; and to us who see in later days how these terrible accounts of deaths in mothers can, in a large measure, be prevented, the figures are truly appalling. Miss Nightingale, so well known throughout the world for her sympathy in the sick and suffering, and who has done so much to improve modern nursing, has, in her introductory notes on lying-in institutions, compiled very careful tables from various sources, illustrating not only the number of maternal deaths in child-birth in hospitals, but showing also the causes of death from various complications surrounding the puerperal state; and she has contrasted these with the mortality among women under like circumstances confined at their own homes.

Taking Le Fort's well-known data from various countries and climates scattered nearly over the whole of Europe, and extending over a considerable number of years: Out of 888,312 deliveries, she found there were no fewer tha 30,394 deaths; giving an average death rate of about 34 per 1,000. In contrast to this, the Registrar-General stated the average mortality in England at the time she wrote as only 5.1 per 1,000. Le Fort, indeed, computed the maternal mortality, when women were treated at their homes, in this country and on the continent of Europe, at only 4.7 per 1,000. The late Dr. Matthews Duncan, it is true, took exception to both these statements and believed the maternal deaths in home practice were not far short of 8 per 1,000, or 1 in 125; and the Registrar-General, who at the time demurred to Dr. Duncan's estimate, eventually admitted that it was nearer the truth than the lower estimate of M. Le Fort.

But taking the higher estimate even of Dr. Duncan, the fact remained that the mortality to mothers was lamentably higher when they were confined in maternity hospitals instead of at their own homes. Proceeding on the data of M. Le Fort, it was merely 7½ fold higher; and even on the calculation of Dr. M. Duncan it was so considerably increased that it became essential to institute a searching inquiry into the causes of the greater danger accruing to the parturient woman when she entered a maternity hospital. This inquiry was taken up by a series of independent investigators, and it soon became abundantly clear that the larger mortality of lying-in hospitals, although to a small extent due to the more serious cases applying for admission to hospitals, was, in fact, chiefly produced by the disease called puerperal fever taking a diversity of forms which specially attached itself to these institutions and led to such disastrous results. No wonder that Miss Nightingale in her zeal for the welfare of poor patients should ask, "Unless it can be clearly shown that these enormous death rates can be abated, or that they are altogether inevitable, does not the whole evidence with regard to special lying-in hospitals but lead to one conclusion, viz., that they should be closed?" Investigation proved that this dire scourge called puerperal fever originated in a variety of causes. In the first place it was shown that the mere aggregation of parturient women was, in the special condition of their bodies, a source of danger. Although parturition is a physiological and normal process, there is in lying-in women a special aptitude or proclivity to take febrile affections, and to develop them in intense forms. If then by chance fever gained entrance to the maternity hospital, it found a fertile soil for its rapid development, and spread the more readily from one patient to another because of their proximity. Thus, at least, 75 per cent. of all the deaths in child-birth were found to be owing to puerperal fever.

The first important fact established was that it might be conveyed from patient to patient by medical men, midwives, and nurses. The infectiousness of puerperal fever was long combated and resisted until the evidence, although often repeated and proved to the hilt, left no doubt on this point in any reasonable mind. That charming poet and professor, Oliver Wendell Holmes, exercised a very large influence in combating the scepticism on this point, and in an essay on the contagiousness of puerperal fever, published in 1843, rose to eloquence which has never been forgotten on the folly of those who cast aside the overwhelming proofs in favor of direct infection and the responsibility resting on those who disregard them.

The second fact elicited was that the disease could be carried from the *post-mortem* room and the dissecting room by those who were conducting anatomical or pathological studies, and at the same time attending midwifery cases. This was clearly pointed out by Semmelweis in the maternity at Vienna in 1846. Semmelweis encountered violent opposition in enunciating his views, as they were thought crotchety and likely to interfere with the training of students in midwifery. Time, however, has abundantly confirmed their accuracy, and has proved besides that not only may the contact with poison, in the minutest quantity brought from the *post-mortem* room, produce disastrous results in the lying-in room, but also that particles conveyed by a medical attendant or nurse from patients suffering with erysipelas, eruptive fevers, and the like, may be the germs of an infection which shall cost the life of a patient. Sir James Simpson, in days when we knew nothing of the influence of bacteria in the production of disease, with the intuition of genius called attention to the analogies between puerperal and surgical fever, and pointed out that there was a similarity both in the symptoms and morbid lesions, as well as in the anatomical condition of the patient. In both classes of patients there were open surfaces exposed, through which a *materies morbi* might be absorbed, and he threw out the suggestion that the poison in each case might be similar or identical. An unhappy illustration of this view occurred at King's College Hospital, where the Nightingale lying-in ward was situated in a general hospital, and the patients were thus exposed to the influences surrounding medical and surgical patients. As the result of this proximity the mortality reached the appalling figure of 1 in 13, and it was deemed right to close the ward.

It was not until the discovery of the importance which microorganisms play in the production of disease that the full significance of these observations by previous investigators was understood. A little more than 30 years ago the celebrated M. Pasteur demonstrated that all fermentation was intimately bound up, and indeed dependent on the growth of minute cells or organisms which must gain access before fermentation can occur. Schwann had previously discovered that alcoholic fermentation was due to the growth of minute cells which constitute the yeast plant, but we owe to the genius of Pasteur the full development and significance of this discovery and its extension to diseases occurring in men and animals. The investigations of Davaine, Rindfleisch, Waldeyer, Pasteur, Koch, and a host of observers soon established the fact that microörganisms played a most important part in infective diseases of wounds, and also in various other febrile diseases and pestilences, the causes of which had been shrouded in mystery. Then followed the striking results of the antiseptic treatment, initiated by our illustrious countryman Sir Joseph Lister, founded on the recognition of the parasitic character of the infection which poisoned wounds and produced suppurative processes. These let in a flood of light not only on the unfortunate results of many surgical accidents and operations, but eventually opened the eyes of obstetricians as to the probable nature of puerperal fever, and the possible conveyance of a *materies morbi* from some external source to the body of the puerperal patient. Experiments and observations demonstrated that the germs of infectious diseases were so minute and so subtile, that they might be carried in the atmosphere we breathe, on the hands of the doctor or the nurse, or in the clothes of either; and if unfortunately the smallest quantity of the organic poison got access to an absorbent surface of a susceptible patient, it multiplied so rapidly as to pervade the whole system in an incredibly short space of time. In illustration of the subtilty of this process, I may point out that a sterilized fluid may be kept an indefinite time without change when atmospheric air and all extraneous sources of contamination are excluded, but let the daintiest finger touch the surface of the fluid, and it instantly begins to develop microbes, the germs of which have been communicated by the finger. This illustrates the extreme subtilty of microscopic life. To produce specific effects there must, of course, be specific germs.

So far as I can make out, it was Professor Stadtfelt, of Copenhagen, who first applied the antiseptic method to puerperal uses in the Copenhagen Maternity Hospital. Here carbolic acid, believed to be a potent germicide, was employed not only in the form of lotions, to the mucous and cutaneous surfaces of the patient, which were the obvious points of infection, but the hands of the medical man, midwife, and attendant, as well as every instrument employed, were sterilized by the same material. Later, M. Tarnier, in Paris, introduced bichloride of mercury or corrosive sublimate for the same purpose, as being a more efficient germicide and free from some of the objections attaching to carbolic acid. This is now extensively, I had almost said universally, adopted as the most trustworthy agent for the purpose required, and it is used in solutions varying from 1 in 1,000 to 1 in 4,000, according to the uses to which it is put.

Eventually it came to be acknowledged that the poison of puerperal fever and its congeners did not originate under any circumstances in the body of a patient, that there was no such thing indeed as ''auto infection,'' but that in all instances the infection must be imported to the patient from without. Guided, therefore, by the progress of antiseptic surgery, Winkel, Breisky, Shroeder, and Gusserow, in Germany, inaugurated a new departure, and began the practice of *aseptic* as contradistinguished from *antiseptic* midwifery. The principle of asepsis is to guard absolutely against the introduction of any poisonous matter from without, not to destroy it when already present. With this view certain methods of antiseptic treatment applicable to the person of the maternity patient, and which had been found by experience to be followed by inconvenience and even danger, were discontinued or reserved only for particular cases. Instead, the strictest precautions were taken to render aseptic every single thing which might possibly convey infectious particles to the patient. Not only were the drainage, ventilation and drinking water carefully looked into, but the hands of the medical men, students, and nurses, were rendered thoroughly aseptic by immersion in a solution of corrosive sublimate or other germ destroyer. Every instrument employed was treated in the same manner, and the clothing of all the attendants was either purified or covered over completely with some protective envelope.

Evidence in proof of the value of asepsis as contradistinguished from antiseptic treatment is furnished by the results obtained in the maternity hospital at Helsingfors, in Finland. There the hospital is built upon a rock, well above the level of the town and overlooking the Baltic with its wonderful fortifications. The purity of the atmosphere is promoted, therefore, by its natural situation. The foundations are dry and clean. The buildings are well-drained, and as they overlook the sea, they are constantly bathed by the sea breezes. With these advantages it has been found that antiseptic precautions will suffice to prevent disaster, less rigorous than in more crowded localities, where the atmosphere is less pure, and other chances of contamination greater. The Finlanders are personally a very cleanly people, even the poor bathing frequently, and giving much attention to keep the skin clean and in good order. With these favorable conditions to start with, and the comparative isolation of the place, Professor Pippingsköld informed me that he did not find it necessary to disturb his patients by a slavish adherence to the minute antiseptic precautions practised elsewhere. In view, nevertheless, of the remarkable success which had been attained in other countries, he considered it necessary so to guard his patients, that no germs of disease could be imported from a foreign source, and consequently all doctors, nurses, and instruments were rendered entirely aseptic before coming in contact with the patients. At no time does the Helsingfors Maternity Hospital seem to have been decimated by puerperal fever as in other countries, yet under the new aseptic system there were good and instructive results. Not only has the *mortality* been lessened, but the *morbidity* or amount of illness incident to the puerperal state has been diminished. Thus, under the old regime, the deaths from puerperal fever were not more than 1.26 per cent. Under the new, the mortality out of 3,482 deliveries was only 0.60 per cent., and it was thus calculated that the lives of 22 mothers had been saved by the precautions of the later period. The *morbidity* before aseptic precautions were adopted was 12.10 per cent. Under the aseptic regime it sunk to 4.11 per cent.

In 1885 I made a tour of some of the lying-in hospitals of Northern Europe, and had the opportunity of witnessing what had been done by the recognition of the way in which, according to modern scientific ideas, fever was introduced into maternity hospitals, and of the methods adopted to insure immunity. In Copenhagen, the cradle so to speak of antiseptic midwifery, the improvement in the salubrity of the maternity hospital was well marked and kept pace progressively with the stricter antiseptic precautions gradually developed and enforced by the administration. The maternity hospital at Copenhagen is an old building, with many of the disadvantages which are obviated in those of more recent construction; but Professor Stadtfelt, impressed with the idea, as he puts it, that "the hygiene of a maternity depends less upon its construction and upon its age, than upon the hygienic principles upon which it is directed, and on the perseverence with which these principles are carried out in the daily service," determined, in 1865, to adopt an antiseptic method of treating puerperal patients, similar to that introduced by Sir Joseph Lister in surgical patients.

Previous to 1865 the mortality from puerperal fever in the Copenhagen maternity had been very high, as elsewhere. During the 15 years from 1850 to 1864 it was as high as 1 in 24 women delivered; the average mortality from the same cause being about 1 in 123 in the town of Copenhagen itself, exclusive of the hospital. Earlier than this the mortality had been even higher, for, from the statistics of Dr. C. J. Kayer, the deaths between 1822 and 1843, with 21,149 deliveries, had actually amounted as high as 1 in 19. Immediately after the institution of the antiseptic system in 1865, the mortality from puerperal fever began to decline. From 1865 to 1874 the deaths were reduced 1 in 51 of the deliveries, and in the last four of these years, viz., from 1870 to 1874, the mortality was reduced to 1 in 87. I have no later statistics from Copenhagen, but have heard that the improvement has been progressive, and has kept pace with the advance of knowledge in the prevention of childbed fever.

A mode of disinfecting nurses who had perchance been attending a puerperal patient affected by illness in Copenhagen, seemed to afford considerable amusement to those who heard the details, and were not themselves the subjects of the experiment. The nurse or midwife, after her nursing was over, was fumigated with sulphurous acid vapor. For this fumigation a room was set apart in which the vapor was generated, and the whole of the body and clothing of the nurse were fumigated except the head. As sulphurous acid gas is absolutely irrespirable, and even in small quantities is extremely distressing to the air passages, it is necessary to protect the mouth and nose from its effects. The head was, therefore, excluded from the vapor by an elastic india-rubber tube, which surrounded the neck at one end, and admitted air at the other from a corresponding aperture in the window. This was regarded as one of the most effectual methods of personal disinfection, but was, I learned not very popular among the nurses, as however carefully arranged it is scarcely possible to prevent the sulphur fumes from getting access to the breathing passages, and a quarter of an hour's detention in this "*durance vile*" was not regarded as an agreeable experience.

In Russia, the antiseptic or aseptic methods have been adopted with remarkable success. The maternity in St. Petersburg, which is humanely supported by the Grand Duchess Catharine, a cousin of the present Czar, is one of the most carefully regulated in the world. It is under the personal supervision of Professor Balandin, and when I visited it in 1876 I was much struck with the completeness of the details for isolating the patients from all adverse influences. The discipline imposed upon everyone, from the physicians to the least important domestic, reminded one of the regulations in a prison. No one is allowed to approach the wards occupied by the lying-in patients, except with the most rigid precautions to exclude infection, and the keys of communication were only permitted to the heads of departments. Throughout the whole hospital the most scrupulous cleanliness was observable; every utensil, every instrument, every article of clothing, down to the woollen socks lent to patients, were rendered aseptic and kept so. As soon as any occupied room was vacated, it was at once stripped and subjected to a cleansing and disinfecting process. The floors were laid with a mosaic concrete, and the walls half way up were of tiles, the rest being parian cement. Both floor and walls could thus be thoroughly washed with an antiseptic solution, and jets and taps of water were skilfully arranged for this purpose.

As the result of this careful management, I learned that during the previous three years there had been only one death from puerperal fever in the whole establishment, and this was in the case of a woman who was brought ill to the hospital and died three days after the birth of her child. There had been six deaths in the same period from unavoidable causes other than infectious disorder. The *morbidity*, too, had steadily declined since the introduction of the antiseptic system. These results are the more remarkable as in the city of St. Petersburg, itself outside the maternity, both general and puerperal mortality are very large.

And what I have said of the improved hygienic conditions of the Grand Duchess Catherine's hospital in St. Petersburg, holds good for the other maternities in Russia. Professor Slawiansky, at the International Medical Congress in Berlin last year, gave the statistics of no less than 52 such institutions in Russia, and conclusively showed that just in proportion as antisepsis had been rigidly enforced, so had both puerperal illness and puerperal mortality declined. He does not give the figures previous to the introduction of antisepsis, but the following are both interesting and instructive, and in marked contrast to those of Le Fort (34 per 1,000): Total number of cases treated from 1886 to 1889, inclusive, 76,646; puerperal number, 6,363; illness per cent., 8.57; puerperal number, 290; deaths per cent., 0.38.

The statistics of the lying-in hospitals of Vienna, Dresden, Paris, New York, and Boston, show a like improvement in the hygienic conditions since the introduction of an aseptic or antiseptic method. There is necessarily some variation, probably arising from the difficulty of enforcing the same rigid precautions in some hospitals as compared with others, but even in the Paris maternities, the records of which seem somewhat less favorable than in Vienna, for example, the results of the new regime are very striking.

The following[1] have been kindly furnished to me by Dr. Cullingworth, of St Thomas's Hospital, and were used by him to illustrate a paper on "Puerperal Fever, a Preventible Disease," a year or two ago:

Imperial Lying-in Hospital, Vienna, mortality from puerperal fever 1863–80, rate per 1,000, 13; 1881–85, 4. Dresden (Leopold) 1883, deliveries, 1,368; mortality per 1,000, 8.7; 1887, deliveries 1,388; mortality 0.7. In the Paris Maternité (Tarnier) the mortality in the years 1858–69, was 93, or 1 in 10¾; 1870–81, 23, or 1 in 43; and in 1882–8, 11, or 1 in 91. In the New York Maternity Hospital the mortality in the year ending September, 1883, was 26 in 429 deliveries, or 60.6 a thousand. In 1885 it had fallen to 1 in 541 deliveries, or 1.8, and in 1886 1 in 463, or 2.1 In the Boston Lying-in Hospital there were, in 1882, 288 deliveries, with 16 deaths, or 55.5; this had fallen in 1885 to 2 in 308 deliveries, or 6.4, and in 1886, out of 373, there was no fatality recorded.

There are one or two points in connection with these figures which deserve comment, and while they illustrate the importance of pure air, and healthful surroundings in preventing illness and in promoting the recovery of puerperal patients, at the same time emphasize the good which has been done by the adoption of aseptic or antiseptic precautions.

Thus it should be noted in the case of the Vienna Hospital there was a distinct improvement in the salubrity of the institutions between 1863 and 1880. Previous to this the mortality was 28 per 1,000. Then it was 13 per 1,000. This improvement took place merely as the result of reconstructing the ventilating and heating arrangements, and generally better management. Then came the introduction of antiseptics, and the mortality sank to less than half, the deaths from puerperal fever being only 4 per 1,000. Especially should it be remarked that in all large maternity hospitals there is always a considerable percentage of difficult and dangerous cases, many of them calling for operative interference. These are necessarily more prone to febrile affections than natural causes, and a recollection of this fact makes the figures more striking. When it is added that in the Vienna Hospital there were no less than 7,964 students instructed in the art of obstetrics during the 29 years in question, the results appear the more marvelous, inasmuch as students have so commonly been regarded as the bearers of infection from one bad case to another.

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[1] Tables omitted.

Again, I may recall the fact that the advantage of the improvements introduced into maternity hospitals does not end in the reduction in the number of deaths. Professor Leopold has shown that in the Dresden Hospital the perfectly normal recoveries in 1886 were 77.8 per cent.; in 1887, 95 per cent. In other words, 95 per cent. of all the women recovered without a bad symptom, the temperature in no case rising higher than 100.4°.

Great Britain was somewhat slower than continental countries to introduce the antiseptic method into its maternity hospitals, but the results have not been less satisfactory. Up to 1877 the General Lying-in Hospital in York road was scarcely ever free from puerperal fever. Great anxiety was constantly occasioned by repeated outbreaks of the disease, and the institution had frequently to be closed for disinfection. Great expenses were incurred to improve the drainage and other sanitary conditions, but not until the introduction of antisepsis was anything like safety attained. The year 1879 was the turning point. Since then, as the result of the new method and a larger knowledge of the precise details to insure its efficiency, the total mortality which, from 1833 to 1860, averaged 30.8 per 1,000, and from 1861 to 1877, 17 per 1,000, has since fallen to 6 per 1,000; and puerperal fever has been so nearly abolished that there was only 1 death from it in 3 years. At the same time it has become an unusual event for a patient's temperature to rise during convalescence above 100°.

A like success has attended the introduction of a careful antiseptic method into other maternity hospitals in this country, and so much is it now relied upon, if efficiently carried out, that there is perhaps the danger of other sanitary conditions being regarded as of too little importance. There is at least this security by the general acknowledgment that a thorough antiseptic plan is greatly facilitated by other sanitary arrangements, such as ventilation and efficient drainage, being carefully carried out.

The fact must not be lost sight of that, although the remarkable diminution of mortality and of ailments incident to the puerperal state is probably mainly due to the introduction of antiseptics, yet other factors have also played an important part in producing these good results. Thus improvements in the construction of maternity hospitals in the larger amount of cubic space allotted to each patient; in the arrangements for drainage, ventilation and water supply, and, lastly and not least, the greater knowledge and intelligence exercised in nursing—all have conduced to the welfare of puerperal patients.

My friend Mr. Bostock, who, since his retirement from the army, has unceasingly devoted himself to philanthropic work, and besides being a member of the Metropolitan Asylums Board is also a member of the Kensington Vestry, consulted me two or three years ago concerning the erection of a lying-in hospital for his parish. As the result of his initiative a new lying-in infirmary has been built with the improvements which modern science has suggested. It is on the pavilion system, each of the 2 pavilions, or wards, containing 10 beds; and these are widely separated from each other, the administrative block being situated between them and communicating by an open but covered corridor. When all the beds in one ward have been occupied the ward is closely sealed and fumigated with sulphurous acid, while the other ward is utilized. The alternate system is the essential point in the administration, but besides this the aseptic or antiseptic method is carried out very completely.

The medical superintendent, Mr. Percy Potter, says in his report that, as the result of the last 2 years' experience, he has to accord unqualified praise so far as the effects upon the patients are concerned. There has been an entire absence of puerperal fever and of septic poisoning. Should puerperal fever arise in a single case, there is not one condition by means of which it is likely to spread. The old lying-in wards were part of the general infirmary, where cases of every description were treated, including erysipelas, pyemia, suppuration and cancer; consequently there were outbreaks of puerperal fever frequently recurring. Mr. Bostock tells me that he had some difficulty in making the guardians understand that new wards were necessary, and still more to induce them to pay for 20 beds, when only 10 were wanted. The experiment has, however, been fully justified by the results.

In concluding this paper I would briefly call attention to a table which I have thrown together, in which are included the statistics of maternal deaths in 6 lying-in hospitals, situated in various countries, since the introduction of aseptic or antiseptic methods. With these I have contrasted the figures of M. Le Fort before the era of antiseptics; and Mr. Newbatt, the distinguished President of the Statistical Society, has kindly computed for me the difference in the proportion of deaths in the two cases.

MORTALITY in MATERNITY HOSPITALS from all causes in various countries of Europe. (Le Fort.)

Before the Introduction of Antiseptics.

	Deliveries.	Deaths.	Per 1000.
Total	888,312	30,394	34.21

After the Introduction of Antiseptics.

	Date.	Deliveries.	Deaths.	Deaths which would have occurred on basis of Le Fort's figures.
Vienna	1881–5	15,070	106	516
Dresden	1883–7	5,508	57	188
Russia	1886–9	76,646	290	2,622
New York	1884–6	1,919	15	66
Boston	1883–6	1,233	27	42
General Lying-in Hospital, London	1886–9	2,585	16	88
Total		102,961	511	3,522

(4.963 per 1000.)

Number of Lives saved out of the 102,961 since the introduction of Antiseptics.

Expected deaths on Le Fort's basis	3,522
Actual deaths	511
Saving	3,011

It will be seen that while, according to M. Le Fort, the maternal deaths in European lying-in hospitals were 34.21 per 1,000 under the old regime, the mortality is now reduced to somewhat less than 5 per 1,000. This computation put in another way indicates that if the former rate of mortality had been maintained 3,522 maternal deaths might have been expected; the actual deaths were only 511. In other words, 3,011 lives of mothers were saved as the result of new and purely scientific methods of treatment.

This, I think, may fairly be stated to be one of the most striking triumphs of preventive medicine. It is no mean achievement to rescue from death more than 3,000 lives of women in the acme of their maturity, and when their lives are most valuable to their families. It may furnish an instructive study to some opponents of scientific research, who have not hesitated to charge those engaged in experimental investigations, with a desire to gratify their own personal ambitions, rather than promote the welfare of the community at large.

CHYLURIA, WITH A REPORT OF A CASE.

By G. W. Davis, M.D., San Francisco, Cal.

Read before the San Francisco County Medical Society.

Chyluria is a rare and curious affection, and has long remained a puzzle to physicians, not only on account of the very remarkable character assumed by the secretion, but also from the exceedingly erratic course that the disease pursues. It is chiefly due to these facts that I have presented this paper, with the report of a case, for your consideration.

Chyluria, as defined by Tyson, is a condition of urine in which the secretion is admixed with fat in a minute state of subdivision, whence the urine acquires a milky or chylous appearance; sometimes accompanied with more or less distinct traces of blood presenting a pinkish color. The further resemblance of such urines to milk is the appearance, on standing, of a cream-like substance that rises to the surface. In the clearer samples a spontaneous coagulation into a jelly-like mass can be distinctly seen. Very generally these urines are albuminous. In the specimens I will presently show you, no albumin has been found; and this is true of nearly every analysis that has been carefully made by Dr. Abrams (whose kind assistance, analytically and microscopically, I gratefully acknowledge) and myself, with the exception of a few times, and then, only traces of albumin were detected.

Microscopically, the urine is found to contain, in addition to the usual elements, a very considerable number of fine particles readily soluble in ether, showing them to be fatty in their composition. This peculiar urinary fat, as seen under the microscope, does not present the form of fat cells or globules, such as we see in ordinary milk, but appears as finely divided opaque bodies that pervade the fluid, and are capable of being entirely separated from the urine by adding ether. The fat furnished by the urine conducts itself very much like the fat of chyle, and therefore the name chyluria has been given to this remarkable disease.

Tube casts, even in cases where considerable quantities of albumin are found, do not occur; while it is very unusual not to find these in cases of renal albuminuria. This is an important differential feature.

The coagulation of fibrin, after the passage of urine, is often very great. These gelatinous masses may even form within the bladder, frequently offering some obstruction to micturition.

Chylous urine usually has a low specific gravity—1007 to 1015—which, to my mind, indicates the presence of an abnormal amount of urea, though this is believed not to be true by a few careful observers.

Scarcely any two persons affected with this malady give a similar account of the origin or length of the attack, or seasons of its occurrence. While both the aspect and character of the disease vary from time to time, for weeks the urine may be transparent, and neither albumin nor any elements of the chyle be discovered in it. At these times the patient, who, as long as the chylous condition lasted, was pale, thin and unable to perform with comfort his ordinary duties, improved in a most satisfactory manner.

With regard to the geographical distribution of chyluria, a large majority of cases are reported as originating in the tropical and subtropical climates; thus, the West Indies, South America, China and Japan are the countries from which American physicians are most likely to see such cases. Cases are reported from the Southern States, and one as far north as Montreal, Canada.

Having considered some of the leading pathological features of chyluria, I shall give briefly the views that at present prevail regarding its etiology. It is natural to presume that opinions on the cause of this rare affection are diversified. Some believe that a direct communication exists between the chyle ducts and the urinary tracts; others consider that there is a definite lesion, ascribing the condition to a vice of nutrition and blood-making, accompanied by textural alteration in the blood vessels of the kidneys through which the elements of the chyle transude. One careful writer states that hypertrophic changes in the lymphatic channels occur with the subsequent acquisition by them of glandular properties. It cannot, however, be affirmed that any of these ingenious views meet all the objections that may be advanced. Before the direct exit of the chyle into the urine can be accepted it must be shown that such a condition is anatomically possible; and again, that the relative proportion of the chief constituents of the two fluids more closely resemble each other than is shown by the reported analyses. With regard to the hypertrophic changes in the lymph channels, there does not seem to be any special physiological difficulty to overcome, and future investigation may prove that such changes really do exist.

Chyluria may be parasitic or non-parasitic. Parasitic when there is found in the blood, and frequently in the urine, a fine, thread-like worm, measuring 0.34 mm. in length to 0.007 mm. in breadth, and named by Lewis "Filaria Sanguinis Hominis." These microscopic nematodes are believed by several authors to be the cause of chylous urine. According to the researches of Manson in China, and Lewis in India, it has been thought quite probable that the filaria in its full development is introduced into the human system with water, being carried from the stomach and intestines into the blood and chyle ducts, whence is propagated the embryo filariæ.

If filaria be a cause of chyluria, the exact process by which they produce the obstruction, dilation and final rupture of the lymphatics is certainly a matter of speculation. It is stated by Tyson that the number of affections other than chyluria which are found associated with filaria exceed those of chyluria. He also states that the filaria embryo is often found in the blood of persons in perfect health. Manson is authority for the knowledge that, out of every two Chinamen taken at random at Amoy, the blood of one will contain filaria. An interesting and singular feature of the habits of the filaria is its nocturnal migration. It is found in the blood only at night unless, as has been observed by Stephen MacKenzie, of London, that night be converted into day.

All agree that the prognosis is favorable. An attack is rarely fatal, and when so it is from extreme exhaustion, the result of the prodigious drain to which the system is subjected. Persons have been known to suffer off and on from 1 to 50 years. Regarding the prospects of cure, a very guarded opinion is advisable, the probability being that the complaint will return again and again as long as the patient lives. There are no premonitory symptoms of chyluria; and often the only symptom is the characteristic appearance of the urine. There is generally a marked debility with mental depression.

Ching Wong, rather an intelligent Chinaman, æt. 37, consulted me in October, 1890. His occupation is that of a cook in one of the prominent boarding houses in this city. He has lived in the United States about 17 years. In that period he has twice visited China. The first visit lasted 6 months, and the second—2 years ago—8 months. He states that he noticed his urine became white about 6 months previous to my seeing him; and that he had not been feeling well for several months before. He had been treated by Chinese doctors without success. At my first examination I found the patient pale and considerably emaciated. Tongue pale and slightly furred. Appetite variable. Heart's action rather feeble and rapid. Temperature normal. Lumbar pains sometimes on one side, at others on both—more or less constant, but not severe. Complained of uneasiness over the bladder and along the course of the urethra. Bowels more or less sluggish. Frequent desire to urinate, especially at night, which I have no doubt was the chief cause of the sleeplessness of which he complained. His hands and feet were cold much of the time; and to use the patient's expression, "I feel so good for nothing." The appearance of the urine at the moment of being voided has been described.

For the next 24 hours I had the patient save all the urine, and at the expiration of this period, after repeated testing and examination, Dr. Abrams and myself came to the conclusion that the urine was chylous, and the case one of chyluria. At different times the patient preserved the urine for 24 hours to ascertain the amount passed. The average was about 45 oz., or 1.400 c.c. The average sp. gr., up to 2 months ago, was 1015. Since which time it has varied from 1018 to 1023. The samples shown are 1022. The reaction has been normal.

To determine whether the disease was parasitic or non-parasitic, we carefully examined the blood, taken shortly after the hour of midnight, from the end of the finger, or lobe of the ear, but we failed to find the filaria. I have repeatedly extracted blood at different times in 24 hours, and have carefully teased out a fibrin mass, in which it is said the filaria is often found, yet each time I have been unable to discover the delicate hematozoa. The case is, therefore, clearly one of non-parasitic chyluria.

Regarding the treatment of this rare disease, it is claimed that very little, in most cases, has been done. Iodide of potassium, large doses of gallic acid, a decoction of the bark of rhizophora racemosa and chalybeates are the principal agents, recommended in connection with as much rest as possible, and an abundance of nourishing food. In addition to the iron tonics and urging the patient to take all the food his digestive organs would bear, I began the treatment with from one to two grains of calomel in combination with sub-carbonate of bismuth, daily, pushed to the point of systemic toleration. After about three weeks of this treatment, watching carefully for the constitutional effects of the mercury, the patient began to improve in almost every particular. The appetite increased and was more regular, the heart's action more vigorous, the tongue looking cleaner, there was much less pain in the back, and the bowels acted more freely. Urination was less frequent and difficult, the urine less milky in appearance, and contained a less number of the gelatinous masses which were smaller in size.

The calomel and bismuth was prescribed with the belief that the liver was largely at fault, the bismuth allaying the irritability of the stomach and upper bowel, of which the patient complained. At no time since the first three weeks has the patient been nearly so ill as when he came under my care. As soon as he began to feel much better he intentionally or otherwise would neglect to take his medicine, and from the first to the last (three weeks), in spite of my efforts, the treatment has been intermittent or irregular. Could it have been more methodical, a better result might have been attained.

For the purpose of varying the course of treatment, I have prescribed a decoction of the bark of mangrove, and turpentine. The latter in 20 to 30 drop doses, three times daily, is strongly recommended by Dr. Abbe, of New York. But neither of these remedies seem to do any good. In fact the turpentine increased the irritation of the urinary organs. Notwithstanding the irregular course of treatment, the condition of the patient at this date is eminently satisfactory. He eats and sleeps well, and rarely complains of feeling uncomfortable. The appearance of the urine is generally normal, and the examination shows a similar condition in its constituents.

Thus is added to a comparatively short list another case of chyluria, with, at least, a modicum of success in the treatment.

431 Geary street.

INTESTINAL ANASTOMOSIS.

By D. D. CROWLEY, M.D., Oakland, Cal.

Read before the Alameda County Medical Association.

I desire to speak this evening upon the subject of intestinal anastomosis, an operation in intestinal surgery that may be performed more frequently than any or all other operations where the entire lumen of the intestine is not patent. Intestinal surgery itself has received more attention within the past 5 years than in any previous 50 years. It has been improved and written upon more extensively in the East than in any other locality. There has been no report of experiments carried out on this coast to my knowledge.

Last March I began a series of experiments upon the dog, and on April 23d read the result of several of these before the State Medical Society at Sacramento. The effort was received kindly, and feeling that I have gleaned some information that may at any time be of practical utility to the physician and surgeon, I take the liberty of selecting one of the several series of experiments for your consideration.

By intestinal anastomosis is meant the surgical union of one part of intestine with another by lateral apposition, with sufficient communication to permit the intestinal contents to pass through freely. This, as a rule, is done without removing any part of the intestine; *i. e.*, resecting or excising. It is merely making a longitudinal incision through the wall of the bowel so that one incision opposes the other. Before going into the details of the operation, I will mention a few reasons why it should be performed, and why, in at least a few instances, any other procedure would not be a proper substitute:

1. In various morbid changes where cicatrices lessen the intestinal lumen, and therefore effect an obstruction.

2. An obstruction not well defined or definitely located; *i. e.*, not located within a foot or several feet of a given point, but being confident that there is a healthy intestine above and below the suspicious section, the healthy intestine can be united and a new channel formed.

3. In malignant diseases where more remote structures, as well as the wall of the intestine is affected, it would be useless to remove the mass in the intestine, and yet life could be prolonged and made easier by an intestinal anastomosis.

4. In congenital atresia.

5. In intestines of unequal size; for instance, in uniting the ileum to the colon. They can be readily united by anastomosis, but with great difficulty after a resection where an attempt is made to unite intestines of unequal size, end to end, by Lembert's suture.

6. It can be performed in one-half the time required to unite the divided ends, and time is of much importance in a laparotomy, even with the most careful antiseptic precautions. Protection to the abdominal viscera always plays a most important *rôle*.

7. It has been asserted by experimenters that the removal of an extensive section of the intestinal canal is followed by marasmus, and finally death, and that the same when permitted to remain, not acting as a conduit, is not followed by this disaster.

8. Extensive mutilation of the mesentery is necessary in a resection, in which case several arteries must be ligated and the nourishment to the intestine partly cut off.

Having considered some of the principal reasons why anastomosis should be preferred to resection, where the divided ends are united, I will not dwell upon the different steps of opening the abdomen, only referring to the necessity of a warm room, aseptic instruments, an abundance of clean towels to protect the abdomen, a strong carbolic acid solution for the surface of the abdomen and a weak solution for the cavity.

A sufficient incision is made in the median line below the umbilicus and the intestines are brought into view. The source from which I have received my principal information being the dog, and in every instance the intestine being normal, I was obliged to imitate an obstruction by including the entire circumference of the intestine in a gauze ligature. This effectually obstructs the lumen, and if further procedure is not resorted to, the animal will die in a few days.

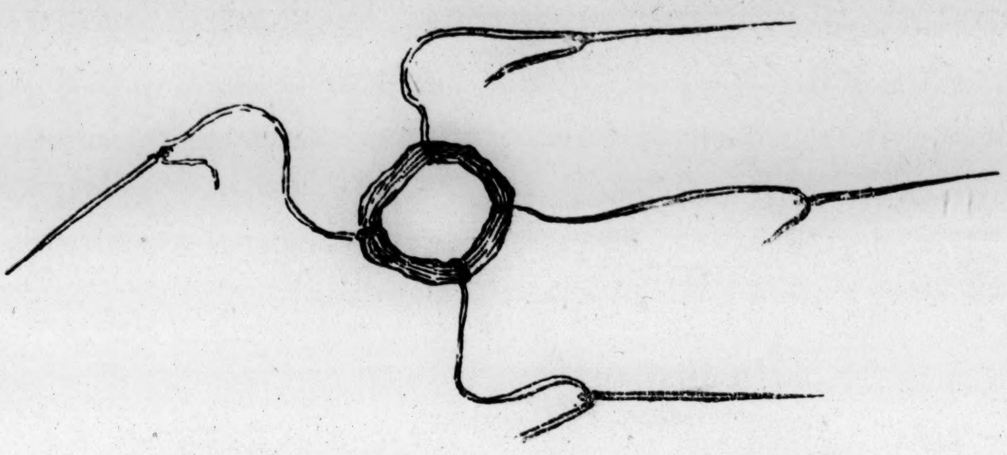
To overcome this serious condition a new channel must be formed, and this is most easily effected by the operation under consideration. Its different steps, to be understood; should be systematically dealt with; and that which I shall mention first, after we have discovered or effected an obstruction, is the rubber ligature, which should be so tied around the intestine that fecal matter cannot escape through the wound and be a continual source of annoyance to the operator and of danger to the patient. In some of my first experiments upon the dog I did not take this precaution, and, as a result of the negligence, I was annoyed by the frequent appearance of fecal deposits rich in intestinal worms. These were a hindrance to the operation and made the entire surgical procedure unpleasant, offensive and by no means aseptic.

The rubber ligatures used in the experiments (and they may be used in the human subject) are small rubber bands. The first is placed 1 inch above the obstruction, the second 4 inches above the first, and the third and fourth 4 inches apart below the obstruction. Considerable care must be used to properly apply these. The mesentery is first perforated close to the intestine with a pair of forceps, care being taken not to wound a large blood vessel. The forceps can be opened sufficiently to grasp the ligature, one end of which is drawn through the perforation. The rubber is then stretched, without discommoding the gut, and an assistant grasps it on each side of the intestine, preventing the portion beneath the gut from retracting and the entire ligature from injuring the part to be ligated. The operator forms a single surgeon's knot with the free ends, drawing it well down to the fingers of the assistant. Dispensing now with the assistant's support to the ligature, the loop just made contracts sufficiently to obstruct the intestine. The 3 succeeding ligatures are tied in like manner.

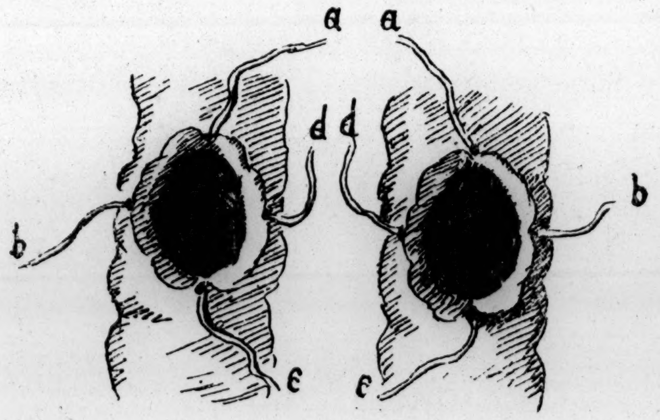
The intestine, at least for a time, must now be drawn well out of the abdomen and protected with moist antiseptic towels. An incision is made between the first and second rubber ligatures, two-thirds of an inch in length in a dog 20 pounds in weight; in the human subject 1½ inches in length. The interior of the intestine is next thoroughly flushed through the wound with a warm carbolized solution sufficient to evacuate its contents. These are carefully caught upon towels on the surface of the abdomen, which are removed from time to time; and when the intestine is sufficiently aseptic, fresh towels should be procured and the intestine returned to the cavity, except the incised part, which must be dealt with further.

It may be proper to advise the necessity of keeping the intestines in a uniform temperature. The cavity of the abdomen in this respect, gives the greater protection, but when freely opened, the communication to it from without should be thoroughly packed with hot, moist sponges, antiseptic towels, and the exposed intestine itself should at no time, if possible, be permitted to remain unprotected. A temperature of 95° F. is an excellent one for intestinal surgery. Assuming that the tissues have been rendered aseptic, it becomes necessary to follow the most feasible plan for giving a substantial support to the wounded wall that it may be held firmly to the opposing intestine until adhesions take its place, and that the aperture may remain patent during the process of repair. Out of the numerous appliances for this purpose, my attention has been drawn to the segmented rubber ring, which I have used in every experiment in intestinal anastomosis. I think other methods have their advantages and disadvantages, and as I have given them no special attention I will say but little here. Two methods that have received my approval are Senn's decalcified bone plates, which form a most excellent support to the intestinal wall, and are subsequently carried away without injury to the intestine. If one had a large supply of these on hand he would be ready for every emergency. The only objection that I can discover to the bone plate is the labor and time required in its preparation. While writing this paper I was pleased to see in the *Medical Record*, June 27th, a long and rather interesting article on "A Vegetable Plate in Intestinal Anastomosis," by Dr. Dawbarn. The vegetable plate being a piece of raw potato, which he asserts gives excellent support, and is not acted upon by the secretions to effect dissolution until after sufficient repair has taken place.

The rubber rings were first introduced by Dr. Brokaw, of St. Louis. He advised white ribbed rubber, with a lumen one-sixth to one-eighth inch in diameter. Ordinary small rubber drainage tube has thus far answered my purpose. It should be elastic and of sufficient strength to give support in opposing the two surfaces. The preparing of a ring for intestinal anastomosis is effected by taking a piece of the tubing and turning it upon itself to form a circle. This indicates the length required to form a ring which should be cut into four equal parts, and beaded on a single or double strand of catgut. The ends of the catgut are firmly tied and the knot buried in the lumen of a segment. An assistant should support the segments and prevent them doubling upon themselves during the process of tying. A fine suture 8 to 10 inches in length should be tied between each segment to the catgut, and the knot buried; this is greatly facilitated by an assistant separating the segments while the suture is being attached. Any projecting angle caused by the approximation of the segments should be cut away with a pair of scissors. This usually notches the end of the segment which permits the sutures to have free play, and when, subsequently, the sutures are made taut they do not disarrange or separate the apposition of the segments. The sutures next should be armed with four round straight needles, and after submerging all in an antiseptic solution, the ring, when slightly compressed between the thumb and finger, is easily inserted through the wound into the lumen of the bowel. The sutures are carried from within out, through the entire wall of the intestine, about ⅓ of an inch from the margin of the wound, one at each end and one on each side. I frequently carry the sutures through before inserting the ring. The needles are removed and the entire intestine is covered with warm, moist, antiseptic towels, while the gut below the obstruction and between the rubber ligatures is treated in like manner; *i. e.*, longitudinal incision, irrigation, insertion of ring, armed with suture and needles. Every detail is followed as described in dealing with the intestine, and the result is that the healthy bowel above, and below the obstruction are each incised, and each contains a segmented rubber ring with four sutures carried from within out near the margin of the wound through the intestinal wall. By now bringing the inferior opening up to the superior there are four ring sutures in the part below the obstruction opposing the four above, the inferior suture in the lower ring opposing the superior suture in the upper ring. The companion sutures should then be tied firmly and the ends cut short.



Rubber ring, armed with sutures and needles.

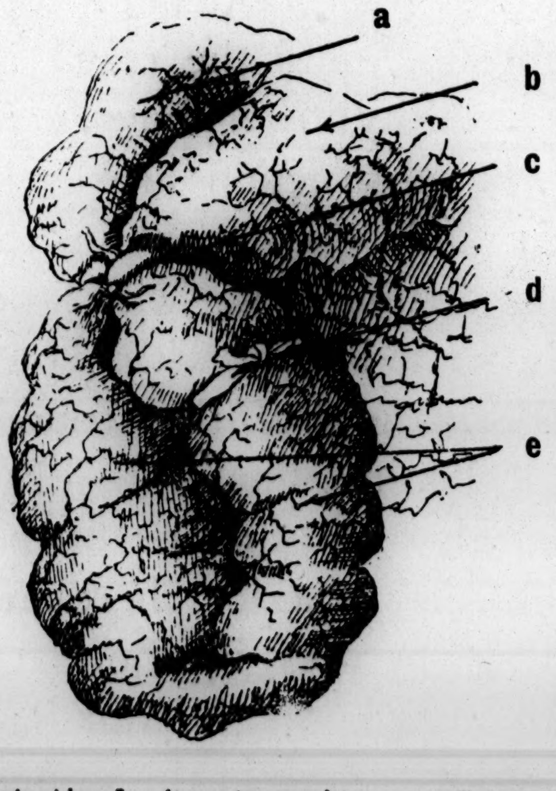


Rings in position before openings are opposed. Suture *a* tied to *a*, *b* tied to *b*, etc.

A rubber ring, which fairly fills an intestine after the incision is made, has, necessarily, a larger diameter than the lumen of the bowel. If it had not it would only act as a support and not assist materially in causing this longitudinal wound to assume a circular outline imitating the normal intestine. Hence the sutures attached to a rubber ring which has a diameter of 1 inch in an intestine, with a diameter of ⅔ of an inch, when carried through the walls of the bowel from within outwards, ⅓ of an inch from the margin of the wound, and tied to companion sutures, produce a circular orifice, and maintain it through the process of repair. Another element which assists greatly in preserving this artificial channel from contracting, is the intestinal contents that force their way through each day. Four ring sutures, or even six, are not sufficient to approximate the serous surfaces in intestinal anastomosis; and if they were, no harm would result in adding several Lembert sutures to give additional support. It has been my custom to use a row of Lembert sutures, external to the ring suture. The sutures should be $\frac{1}{8}$ to $\frac{1}{5}$ of an inch apart, and the ends cut off close to the knot.

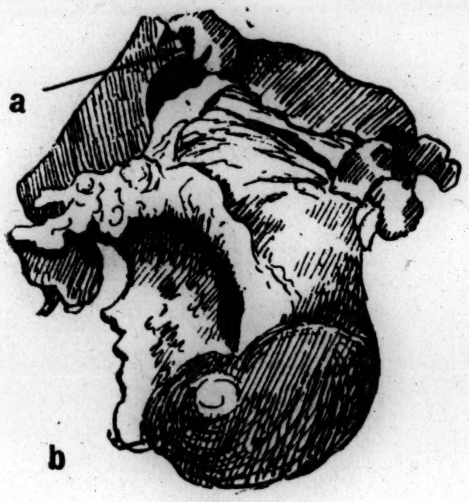
Efforts have been made by some operators to bury the knots, but in all experiments thus far I have at no time, after the tenth day, been able to discover a suture or a knot except in one instance, where a suture was almost free in the peritoneal cavity. After suturing one intestine to the other, in a few instances I have covered the sutured surfaces with omentum. I did not always suture this structure to the intestine, but merely covered the part with it. A few surgeons have practised scarifying or scraping the serous surfaces before opposing. This may be an advantage to speedy repair, but the serous covering of an intestine will always readily unite.

In my experiments upon the dog, there has been continued success, except in two consecutive instances. This was because of a deviation from my usual method of operating. Previously I always made a large longitudinal incision for the anastomotic channel, so that the segmented ring, though large, would be held only loosely by the walls of the intestine, before sutur-



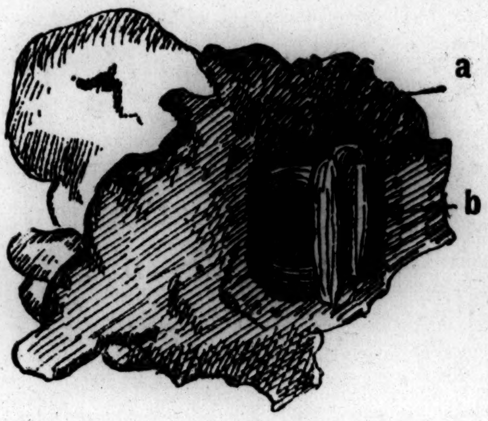
Intestinal Anastomosis. — *a* Lower segment. *b* Upper segment. *c* Approximation of intestine, with rubber rings. *d* Artificial obstruction. *e* Obstructed intestine.

ing. This had always been accompanied with success, but was somewhat tedious, on account of the ring getting out of position before tying the ring sutures; and sometimes it would appear through the wound, unless all the sutures were held by an assistant. It occurred to me that a large ring filling the entire lumen of the intestine would give less trouble before suturing, and more easily maintain its position, and would have a decided advantage over a smaller ring. I did not err in the conclusion, but had the mortification of having the dog die 2 or 3 days later. Operating in the same manner a second time, the dog again died in about 2 days. *Post-mortem* examination in each showed a perforation at the seat of the ring, caused by the pressure from within the gut.



View of Loop.

a New channel opened. *b* Obstructed loop of intestine.



Specimen removed from animal ten days after operation.

a New channel. *b* Rubber rings in position.

It is very important not to use apposition rings of so great a diameter that the two intestines, when apposed, are made tense and hug closely to the rings. In one of my last experiments (No. 17) I found, after using the Lembert suture to give additional strength to my ring sutures, that the wall of the intestine surrounding the ring was put on the stretch; and this was so recorded in my notes on July 22d, at which time the experiment took place. On July 29th the dog died, and the abdomen was found to be filled with yellowish septic material, very offensive in odor. The rings had perforated the intestine in several places, permitting the intestinal contents to pour freely into the peritoneal cavity. This operation elicits further comment. Supposing the rings, when *in situ*, lie easily in the intestines, a mistake can be made in suturing, or rather in adding the additional sutures to the ring sutures, by stitching at too great a distance from the margin of the wounds and therefore inverting an unnecessary amount of gut; instead, these sutures should be on a line with the ring sutures or slightly external.

In these unsuccessful experiments it occurred to me at the time, that the intestinal walls were drawn too tightly upon the rings, and in the 2 cases I purposely permitted the condition to remain, in order to definitely determine the effect, which proved to be perforation of the intestine immediately over the ring. In these cases death took place between 2 and 3 days following the operation. In another case, where the pressure was not so marked, death occurred in 7 days.

1103½ Broadway.

DEPARTMENTS.

OBSTETRICS, GYNECOLOGY AND PEDIATRICS.

By Wallace A. Briggs, M. D., Sacramento, Cal. and
Henry Gibbons, Jr., M. D., Professor of Obstetrics and Diseases of Women, Cooper Medical College, San Francisco, Cal.

Ectopic Gestation.—Extrauterine pregnancy and its management are attracting much attention from physicians, both at home and abroad. From 15 to 20 references to the subject are found in the various medical journals for a month. These include the record of at least 8 cases: One by Dr. Henry T. Byford (*North American Practitioner*, June, 1891), who operated at three and a half months, and after rupture. The patient recovered. The case possesses additional interest from the fact that 5 years before she suffered from an extrauterine pregnancy on the *right* side, with expulsion of decidua. There was no operation, but a hematoma remained for several months. A second, by Mr. E. H. Howlett (*Lancet*, May 23, 1891). In this case the left tube had ruptured, between the third and fourth months, and there was great exhaustion from hemorrhage. The abdomen was opened and the usual operation performed. Recovery was uneventful. In the third case reported by Dr. William P. Beach (*Brooklyn Medical Journal*, June, 1891), the patient, after the usual menstrual irregularities, continuing through 6 months, was attacked with agonizing abdominal pain, and became collapsed. She recovered, however, and was discovered to be pregnant. The fetal movements then ceased—the child died Effort to deliver by dilating the cervix was made with no result. Two and a half years have since elapsed, and she still retains the fetus, though the size of the tumor has much reduced. She menstruates regularly and is in excellent health. The fourth case also presents remarkable features. Irregularity of menstruation continued for some months, and ectopic gestation was diagnosed; but the patient refused operation. In the ninth month [probably] the symptoms being urgent Dr. John W. Taylor opened the abdomen and extracted a living child, which was floating in the abdomen, having escaped from a ruptured cyst. Since the placenta was extensively attached to the pelvic organs it was not removed, but the abdomen closed. Twelve days later, the temperature and pulse having increased, the abdomen was again opened and the placenta removed. The profuse hemorrhage was stopped with perchloride of iron. The patient recovered.—(*Journal of Gynecology*, June, 1891.) In January, 1891, the same physician operated upon another and similar case. The child weighed 10 pounds, was dead, and lay in an unruptured gestation sac. Recovery resulted as in the former case. In a paper on this subject, read before the Obstetrical Society of London (*American Journal of Obstetrics*, August, 1891), DR. WALTER GRIFFITH detailed a case in which ectopic gestation having been diagnosed, the abdomen was opened and the sac emptied. It was impossible to remove the sac. The woman died an hour after. At the same meeting MR. MARMADUKE SHIELDS mentioned a case in which nature unaided, had almost accomplished delivery. A black offensive tumor, the size of a turnip, protruded through a circular opening at the umbilicus. The opening was enlarged, a fetus extracted, and the placenta removed piecemeal. The woman recovered. Finally, in a discussion in the Southern Surgical and Gynecological Association (*Annals of Gynecology and Pediatry*, June 1, 1891), DR. W. D. HAGGARD stated that two or three weeks before, a lady of Nashville, while in a store, fainted. In the afternoon she went to DR. DOUGLASS' office, where extrauterine pregnancy was diagnosed. She was, however, too exhausted to undergo operation and died. The 8 cases above briefly presented, and each differing widely from the others, show some of the many sides of this strange abnormality. HART (*Edinburgh Medical Journal*, April, 1891), in the course of a paper on "Displacements of the Placenta in Extrauterine Gestation," presents his views of the gross anatomy of extrauterine pregnancy in the following conclusions: (1) Ovarian (extremely rare). (2) Primary intraperitoneal (not proved as yet, and improbable). (3) Fallopian tube; interstitial; in isthmus; in ampulla usually; tubo-ovarian not well demonstrated. From Fallopian tube form we may get: (*a*) Rupture and intraperitoneal hematocele (first to third month). (*b*) Development in tube to nearly full time (exceedingly rare). (*c*) Development into broad ligament (intraligamentous; subperitoneo-pelvic). (1) Continued extraperitoneal development with placenta below; may get living child. (2) Development with placenta displaced; death of child; suppuration and discharge by bowel. (3) Development with placenta below, extraperitoneal and not displaced; child may escape with or without amnion into peritoneum. So-called "abdominal pregnancies;" *i. e.*, advanced extrauterine gestation may arise as follows: (*a*) From an early rupture (up to the third month) of a Fallopian tube gestation, the fetus only escaping, the cord remaining unruptured, and the placenta remaining and developing in the tube. (*b*) Development from Fallopian tube into broad ligament; fetus escaping into peritoneum; placenta remaining behind in extraperitoneal tissue. (*c*) Development of fetus and placenta entirely extraperitoneally.—*Brooklyn Medical Journal*, June, 1891. An editorial in the *Medical News*, (June 13, 1891), calls attention to the propriety of operating *per vaginam* in ectopic gestation, and instances a recent case reported by PROF. FENGER, in which, the head being felt through the vagina, the fetal sac was opened by the cautery, craniotomy performed upon the head, which presented at the opening, and the skull extracted piecemeal, the body easily followed. The placenta came away on the seventeenth day, and the patient recovered. This called to mind a similar operation by PROF. GAILLARD THOMAS several years ago, the patient, however, being but three months pregnant. He made the mistake, recognized afterward, of tearing away the placenta, causing excessive hemorrhage, instead of waiting, as in Prof. Fenger's case. Nevertheless the patient recovered. There seems to be but one opinion among obstetricians and gynecologists regarding the treatment of these cases. If the condition can be positively recognized operate at once, and remove the sac and contents if possible.

Tracheotomy Versus Intubation.—An editorial in the *Medical and Surgical Reporter* (June 20, 1891,) favors the former. The writer finds the placing and removal of the tube, in intubation, difficult and requiring much manual dexterity; that the necessity for repeated reintroduction of the tube occasions the same fright, struggling and exhaustion of its first performance; that false membrane may become wedged in the lower end of the tube and require its instant removal to prevent suffocation; or, on its introduction, the tube may push the membrane before it, with a similar result; that the accumulation of membrane or mucus behind the tube may require its removal when the physician is not at hand; that liquids may pass into the air passages and cause pneumonia; that ulceration and subsequent aphonia may occur; that in paroxysms of coughing, the tube may be expelled, or even swallowed, and dangerous dyspnea quickly follow, when no one competent to replace the tube is at hand. Notwithstanding that statistics favor intubation, the following conclusions are drawn: (1) That in cases of equal gravity, tracheotomy is not, in itself, a cause of greater fatality than intubation. (2) That the operation of tracheotomy involves less suffering, and the patient is not annoyed by subsequent steps, as in intubation. (3) After tracheotomy the patient usually falls into a quiet slumber, which is not the case when intubation has been done. (4) Intubation involves a great risk of foreign bodies, liquids, etc., entering the trachea and setting up a pneumonia. (5) In tracheotomy, the subsequent cleansing of the inner tube can safely be intrusted to the nurse; in intubation, the doctor alone can give the tube its needed attention. (6) The physician who is able to perform properly an operation of intubation is just as competent to do a tracheotomy; and, in the latter case, with less liability of dangerous sequelæ following.

An Analysis of 1,008 Cases of Scarlet Fever Admitted Into the Southwestern Fever Hospital During 1890.—DR. F. FOORD CAIGER, the medical superintendent, found the greatest prevalence of the disease to be in October, which is in accord with observations made in London for the past 17 years. Of the total, 31 per cent. were under 5 years of age, and 44.5 per cent. between 5 and 10 years. There were 51 cases over 20 years of age. The sexes were about equal; the mortality, 4.67 per cent. Complications arose in the following proportions: Otitis, 12.9 per cent.; adenitis, 7.1 per cent.; rhinitis, 6 per cent.; eczema, 3.3 per cent.; albu minuria (simple), 3.1 per cent.; ulcerative stomatitis, 2.8 per cent.; nephritis, 2.7 per cent.; rheumatism, 2.7 per cent.; bronchitis, 2.8 per cent.; conjunctivitis, 1.35 per cent.; tonsilitis (secondary), 1.24 per cent. The younger the child the more prevalent was otitis, only 1 case occurring after the age of 10. In one-third of the cases of adenitis, suppuration took place. The proportion of cases of albuminuria was very small, and in strong contrast with results in 375 cases treated in the same hospital 2 years before, when the percentage was 93. Dr. Caiger believes this difference due to diet and bathing. In his cases meat and fish diet, and daily bathing, after the temperature became normal, were ordered; in the other cases, "low diet," beef tea, milk and eggs, with no baths, was the rule. The period and extent of desquamation varied in different cases within wide limits. In a few cases, mainly adults and very young children, it was completed in 6 weeks; in others it was prolonged to 12 or even 16 weeks. In a large majority of cases no special treatment was indicated, symptoms being dealt with as they arose.—*Lancet*, June 6, 1891.

A Case of Vaginitis with Gas Cysts, or so-called "Emphysematous Vaginitis."—The following case is reported (*Lancet*, June 6, 1891) by DR. G. ERNEST HERMAN: A nullipara, aged 28, married 9 years; vagina healthy 6 months before, when the cervix had been dilated for dysmenorrhea. She now complained of constant pain; had had slight pink discharge. A tender swelling was found at right of uterus; the vagina felt as though studded with hard nodules; they were seen to be greyish-black, tense vesicles, in size from that of a hempseed to a pea. When pricked they collapsed with a pop, no fluid escaping. Water being placed in the speculum and the vesicles pricked under water, bubbles arose to the surface. A cure soon resulted. The husband denied having had any genital disease. So far as known, this is the only case of the kind occurring in England. In German literature 21 cases are recorded, 17 in pregnant women. The pathology seems to be, according to Schrœder, a decomposition of secretions contained in vaginal follicles.

SURGERY.

By T. W. HUNTINGTON, B. A., M. D., Surgeon Southern Pacific Company's Hospital Sacramento, Cal.,
J. F. MORSE, M. D., Surgeon German Hospital, San Francisco, Cal., and
G. F. SHIELS, M. D., C. M., F. R. C. S. E., Surgeon Polyclinic, San Francisco, Cal.

An Undescribed Ligament of the Hip.—DR. M. BELLINI, of Athens, describes a new ligament of the hip. This consists of a band of fibrous tissue which rises above at the lower border of the reflected tendon on the rectus femoris, and runs downwards and forwards towards the internal anterior border of the great trochanter, below and a little in front of the tendon of the gluteus minimus, with which it has a tendency to blend. Whilst dissecting the articulation it is often destroyed, and has therefore without doubt been overlooked by anatomists. Its upper part is triangular and large, but it becomes rounded at its lower attachment. Its strength varies, but it can always resist considerable traction. Dr. Bellini names the ligament the "tendino trochanterian."—*Bulls. de la Soc. Anat. de Paris*, May, 1891.

Operative Treatment of Reducible Inguinal Hernia in Infants.—KAREWISKI, of Berlin, maintains that early age is not an absolute contraindication of an operation for the radical cure of hernia. In many young subjects the wearing of a truss can do no service. The records of the few cases under 12 months operated on show that, notwithstanding the unfavorable conditions, septic infection occurs much less frequently than in older children. On the other hand, in suckling children the healing of the wound is often disturbed, and the duration of the after-treatment consequently much prolonged. The local disturbances, he holds, are due, not to any infection of the wound, but to the extensive dressings now used in antiseptic surgery, which act unfavorably on the tissues of the infant and prevent a free discharge of the secretions of the skin. The surgeon, in operating on infants, makes no attempt to approximate the pillars of the external ring, but, after return of the contents of the hernia, dissects away the wall of the sac as far as the internal ring, and then, after twisting and tying it at this point, cuts the whole of it away. The subsequent closure of the external ring is effected by the development of the inguinal canal and by the elasticity of the pillars. The wound is plugged for 24 hours and afterwards freely divided. Karewiski has operated on 9 children in this way with good results. The average duration of the after-treatment in these was 10 days. In the first of these cases the patient was free from relapse when last seen, 3 years after the date of the operation. The youngest of these patients was 9 months and the oldest 2 years and 3 months old.—*Centralblatt f. Chirurgie*, No. 26, 1891.

Perforation of the Vermiform Process and Cecum.—DR. H. EINHORN has arrived at the following conclusions, based on the records of 100 *post-mortem* examinations in cases of peritonitis from perforation of the appendix vermiformis. (1) Perityphlitis in 91 per cent. of the cases is the result of disease of the vermiform process. (2) Primary perforation of the cecum occurs in only 9 per cent. of the cases. (3) Typhylitis and perityphlitis occur with like frequency in both sexes. (4) Predisposition to these lesions occurs only in advanced age, not as has generally been assumed in youth. (5) Perforation of the vermiform process is very seldom caused by the presence of a foreign body, and in such instances usually by hardened and inspissated masses of fecal matter. (6) Perforation is favored by deviations from the normal form and position of the vermiform process, and also by diseases of its mucous and muscular coats, due, in many instances, to an unhealthy condition of the intestinal contents. (7) Typhlitis and perityphlitis are caused much more frequently through injury.—*British Medical Journal*, July 11, 1891.

What Shall Be Done for a Patient With a Foreign Body in One of the Bronchi.—DR. J. D. RUSHMORE says the age, condition of the patient and state of the respiratory organs, as well as the size, shape, weight, etc., of the foreign body should be taken into account before advice is given. A foreign body in a bronchus is always a menace to life, as it causes ulceration, hemorrhage, abscess, pneumonia, bronchopneumonia, pulmonary thrombosis, etc., in proportion to the firmness with which it is held, and should it become loose, asphyxia, edema or both may occur. Other methods than those used up to the present time are justifiable when we consider that the failure to extract foreign bodies from the bronchus is 78.38 per cent. The cause of anxiety in the operation through the anterior wall of the chest is the possibility of wounding the pulmonary vein. The posterior or Nesiloff operation is less difficult and much less dangerous. It consists in opening the thoracic cavity into the posterior mediastinum from behind, by the resection of four ribs, without touching the pleura. The posture of the patient is on the abdomen, the arm abducted and raised. A vertical incision is made parallel to the vertebral column, and at a hand's breadth to the left, through the whole thickness of the parts; two horizontal incisions are carried toward the vertebræ, running from the extremities of the vertical incision; a flap is dissected back and a subperiosteal resection of the third, fourth, fifth and sixth ribs is done separately. The pleura is easily pushed forward and the bronchus found. A preliminary opening below or into the pharynx should be made before resorting to inversion, striking the chest, etc., to dislodge a foreign body, thus preventing the danger from asphyxia should it remain in the larynx. Experience in the management of such cases support the following conclusions: (1) A foreign body in a bronchus is always a source of danger to the patient and its spontaneous expulsion is very exceptional and may be long delayed, thus causing inflammation and its results, which is more frequent than asphyxia. (2) The dangers of operative interference should not prevent an attempt at the earliest possible removal, which should be preceded by a preliminary opening into the larynx or trachea. (3) After a reasonable search through the trachea and bronchus, opening the thoracic cavity in front or the mediastinum or pleural cavity posteriorly is justiable; all operative measures being done at a single operation if possible.—*New York Medical Journal*, July 25, 1891.

An Easy and Effective Way of Plugging for Epistaxis.—DR. A. H. PHILLIP describes the following method: An old handkerchief six inches square is pushed by means of a probe "umbrella" fashion into the nostril until it is felt that the point is well into the cavity of the naso-pharynx. The closed end of the sac protrudes well into the pharynx, while the open end is at the anterior nares. The sac should then be packed with cotton wool, dry or soaked in some astringent solution; the bottom forming a firm, hard plug wedged into the posterior nares. The mouth of the sac is tied just outside the nostril, and the ends of the thread secured. To remove the plug take out the cotton bit by bit with a small dressing forceps. If there is any bleeding the sac is syringed with carbolic lotion and repacked with clean cotton. If there is no bleeding the sac is easily removed by the application of a little warm water. The advantages in this method are: (1) It is easy, quickly accomplished and effective, and the materials used are found in every house. (2) No damage is done to the floor of the nose or back of the soft palate by strings, etc. (3) No disagreeable hawking, coughing or vomiting takes place during the introduction or afterward from strings left hanging inside the mouth. (4) The plug can be removed without any force, so that no damage is done to the mucous membrane, and no return of the hemorrhage caused.—*British Medical Journal*, July 18, 1891.

A Method of Performing Inguinal Colotomy.—After the usual preparation for the operation an incision is made in the left inguinal region, through which the sigmoid flexure is withdrawn. The bowel is divided in the middle, the distal end invaginated and returned into the abdominal cavity. Into the upper, or proximal, end a glass tube 1 inch in diameter is tied, its free end being attached to a rubber tube to convey the fecal discharge away from the wound. This piece of bowel is sewed to the edges of the wound by green catgut sutures passing through its musculo-serous coats, and the rest of the wound closed with the same material. About 2 inches of the bowel projects beyond the wound, which is dressed with iodoform and salicylic wool. Each day more or less motion passes through the tube, while the wound remains aseptic. After 3 days the projecting piece of bowel is cut away, and, as a rule, in a short time a very satisfactory artificial anus results and continues throughout, there being no tendency to procidentia. It is, of course, necessary to open the peritoneal cavity, but no harm results from this. The bowel bears very kindly what at first appears to be somewhat rough treatment. It has the disadvantage of using the living intestine too much like a piece of hose-pipe, but it has the advantage of not interfering with its function, whilst securing an aseptic wound.—MR. E. T. PAUL, in *British Medical Journal*, July 18, 1891.

OPHTHALMOLOGY, OTOLOGY AND LARYNGOLOGY.

By WM. ELLERY BRIGGS, M. D., Sacramento, Cal.

The Treatment of Immature Cataracts.—MR. MACNAMARA asks if there are any valid reasons why we should not treat immature, in the same way as we treat mature cataracts. He answers the question by saying he has long taught that the operation of extraction is successful in proportion to the completeness with which we remove the lens and its capsule. He does not believe that aseptic lenticular matter should cause iritis, although it remain in contact with the iris. There is no evidence in support of the views held by Pagenstecher and Graefe, that soft lenticular matter acts chemically as an irritant when applied to the iris. From these considerations, and the results of experience, he arrives at the conclusion that there is no special reason why we should not extract an immature cataract. The advantages of such procedure in advanced cataract in both eyes are very great. The author advances the idea that it is a mistake to condemn a patient suffering with cataract in both eyes to wait until that in one eye has become mature. He would go a step further and state his conviction, that the results following the extraction of immature cataracts are more favorable, on the whole, than those of fully formed cataracts, because, in the former, the lens escapes from the eye with less damage to surrounding structures than when a large, hard cataract has to be extracted. This he believes to be true if the following points are carried out: A sufficiently large opening should be made in the cornea to allow the lens to pass through it with ease; that an iridectomy is performed at the time of extraction; lastly, after rupturing the capsule of the lens, gentle and continued pressure with the curette must be made upon the lower portion of the cornea, the curette following up the lens as it passes out.—*British Medical Journal*, August 1, 1891.

Perchloride of Mercury in the Curative Treatment of Trachoma and Other Conjunctival Disease.—MR. KENNETH SCOTT, in a paper read before the London Ophthalmological Society, says he has treated a large number of cases of trachoma in Egypt by the ordinary methods, but has of late supplanted them by the perchloride of mercury. He used a 4 per cent. solution, made by dissolving the salt in glycerine, and then diluting with water. This was applied to the everted lids once a day, and in addition a ¼ per cent. solution given to the patient to use thrice daily. Iron tonics were usually prescribed during the treatment. Mr. Scott had had very satisfactory results with this treatment, curing nearly all cases in about eight weeks. A similar treatment, with the omission of the iron tonics, had proved very efficacious in ophthalmia neonatorum. MR. JULER thought Mr. Scott's records appeared too good to be true. He had used perchloride of mercury combined with nitrate of potash in solid pencil with satisfactory results, but his cases were not cured so rapidly as Mr. Scott's. MR. S. A. STEPHENSON had found it a valuable remedy, but it could not be considered a specific.

SYPHILIS AND VENEREAL DISEASES.

By G. L. SIMMONS, JR., M. D., Sacramento, Cal.

AND

DERMATOLOGY.

By D. W. MONTGOMERY, M. D., Professor of Pathology, University of California, San Francisco.

Life Insurance and Syphilitic Risks.—MR. JONATHAN HUTCHINSON, in a paper on the "Modern Treatment of Syphilis" considers some of the more important relations of syphilis and life insurance. He had recently been requested by a life insurance company to formulate a code of rules for the guidance of its examiners when considering the acceptance or rejection of applicants who have had syphilis. His advice on this subject was for the most part favorable to the applicants, with this exception, however, that he would decline persons who at the time of their presentation shall be undergoing the active development of secondary symptoms. These applicants, he advises, should be told to wait until the symptoms had disappeared. He bases this advice on the fact that it is always desirable to know how well or how ill the syphilitic patient sustains the specific treatment proper to the second stage of the disease, and also how willing and how attentive he may be to follow out the directions of his physicians. Mr. Hutchinson holds that an insurance company might make a profitable business out of syphilitic risks accepted in the early stage of the disease and taken at the ordinary rates, for he has found that the threatened life is often a long one. In his experience such syphilitic persons appear quite as likely to attain to length of days as others who have not been syphilitic. In the cases of those who present themselves free from symptoms, but who have the history of former attacks, the advice is that they be not refused, provided that they have not definitely become the subjects of the tertiary lesions of the disease, or have not, owing to idiosyncracy or inadequate treatment, had a prolonged siege of secondary symptoms. But even among these are not a few who should be regarded as eligible risks at ordinary rates.—*Journal American Medical Association*, August 8, 1891.

Treatment of Lupus with Tuberculin.—PROFESSOR E. V. BERGMANN, in an article (*Sammlung klin. Vorträge*) on this subject, concludes as follows: (1) That the therapy of lupus which obtains for us the best results is the old local and surgical method of Volkmann—thorough scraping out of the affected parts; then the employment of tuberculin, which causes a much quicker healing. (2) Tuberculin possesses, in the treatment of lupus, a high theoretical interest in that, in lupus or tubercular skin processes, it produces the inflammatory reaction.—*Centralblatt f. Chirurgie*, No. 29, 1891.

MATERIA MEDICA AND THERAPEUTICS.

By WM. WATT KERR, M. A., M. B., C. M., Professor of Clinical Medicine, University of California, San Francisco.

The Toxicology of Exalgine.—A French practitioner records a case of poisoning by an overdose of exalgine, which constitutes an interesting contribution towards our knowledge of the toxicology of the drug. Four powders, each containing 15 grains of antipyrine, were prescribed for a patient, but by mistake the druggist dispensed exalgine, and consequently he received two doses of 15 grains each on two consecutive days. The physician was urgently summoned to see the patient, who was reported to have become insane, and when he arrived at the house he found the man suffering from intense vertigo, crying out that he was falling over a precipice, and there was also a condition of extreme dyspnea and very marked cyanosis. The same symptoms were produced on both occasions, but the interesting feature is that they passed off in a few hours without leaving any permanent ill effect behind, although the drug, on being tested, proved to be of usual strength and quality. This would indicate that the unpleasant symptoms which have occasionally followed doses of 5 grains must be devoid of any real danger.—*Medical Press and Circular*, May 6, 1891.

Therapeutics of Papain.—Papain as a remedy in indigestion has the advantage over similar bodies of animal origin of carrying on its action in an alkaline, an acid, or a neutral medium indifferently. Its action on food is, therefore, not limited to any particular region of the alimentary canal, but continues so long as there is food to be acted upon, whether in the stomach or intestines. It is also a powerful solvent of diphtheritic membrane, and since it has been shown that the specific bacilli thrive and multiply therein, the propriety of removing the membranes as they form has been established on a scientific basis. The subjacent membrane is thus denuded and rendered accessible to local treatment of another kind, and the throat is prevented from continuing to be a focus for the elaboration of the diphtheritic poison. Still more recently these dissolving properties have been turned to account for the purpose of bringing about the arrest of growth, and even the retrogression of malignant neoplasms, and although this plan of treatment has not yet received official sanction it is claimed to have yielded good results in the hands of competent observers, and it is sure to be admitted to the test of practical experience. It is not improbable that in the future these powerful qualities may find a much wider application in therapeutics than is at present the case, and the benefits should be commensurate with the intensity and comprehensiveness of their effects.—*Medical Press and Circular*, May 6, 1891.

MEDICINE AND PATHOLOGY.

By ALBERT ABRAMS, M. D., Demonstrator of Pathology, and Adjunct to the Chair of Clinical Medicine, Cooper Medical College, San Francisco, Cal.

An Alkaloid of the Tubercle-Bacilli.—PROF. ZUELZER has succeeded in extracting an alkaloid from the bacilli of tuberculosis (*Berl. klin. Woch.*). The method employed was as follows: The contents of the inoculated tubes were subjected to the action of hot water, acidulated with hydrochloric acid; the solution is then filtered, evaporated, precipitated with chloride of platinum, the double salt broken up with H_2 S, the solution refiltered and the filtrate finally dried. A white crystalline salt is obtained, readily soluble in hot and with difficulty in cold water. Rabbits and Guinea pigs inoculated with the salt present the following characteristic toxic symptoms: One centigramme of the salt in substance or solution produces in from 3 to 5 minutes increased frequency of respiration up to 180 in the minute, elevation of temperature, exophthalmos and pupillary dilatation. After 15 to 20 minutes these symptoms begin to recede. Large doses resulted in death of the animals in from two to four days.—*Wiener med. Presse*, February 22, 1891.

The Practical Value of Trommer's Test for Sugar.—DR. JASTROWITZ has been engaged for years in establishing the practical value of TROMMER'S test. The presence of sugar is recognized with this test by the development of a yellow or orange yellow precipitate, which, however, only occurs when the quantity of sugar in the urine is large (0.6–0.8 per cent.), whereas, if the quantity of sugar is below 0.5 per cent. no precipitate results. While other qualitative tests will detect smaller quantities of sugar, they are not only unreliable, but impracticable for the physician. When the percentage of sugar excreted is small, it can be increased by the following procedure: The patient is instructed to empty the bladder in the morning, partake of a breakfast composed largely of starchy food and cane sugar, and after 2 or 3 hours void some urine for examination. The urine of healthy persons never shows a higher percentage of sugar than 0.35 per cent., which can readily be recognized by TROMMER'S test. An important part of the test consists in the microscopical examination of the precipitate. Before conducting the test, the phosphates must be removed by adding an equal volume of caustic soda and decanting the urine after precipitation of the phosphates. In urine containing less than 0.5 per cent. of sugar a yellow color is obtained on heating to the boiling point. When there is 0.6 per cent. of sugar, or over, the urine becomes tricolored, red above, then yellow, and blue below. The tricolor is more pronounced as the percentage of sugar increases. If the precipitated red granules are examined under the microscope octahedral, tetrahedral and round crystals are found. These crystals are in themselves characteristic of the presence of sugar.—*Wiener med. Presse*, February 22, 1891.

New Method of Dressing the Chest in Pneumonia and Pleurisy.—The following method is recommended by DR. WILLIAM HUNT: A very thin layer of cotton is applied over the affected side, from spinal column to sternum, and secured with collodion smeared thoroughly over it by means of a broad brush, like a mucilage brush. Then add thicker layers, securing them in turn with collodion, until a good padding is obtained, paying particular attention to the edges. In double cases the dressing may encircle the chest. The advantages are: (1) The one dressing, if well applied, will last throughout the case; and hence, (2) The fatigue and discomfort of frequent poulticing are avoided. (3) The side, in unilateral cases, is held as in a splint, while the free side does the breathing. A first-class non-conductor is covering the chest. The contracting collodion may have some influence in controlling the blood supply. (4) There is no particular interference with physical examination, to one who has a good ear. May be it would be a good thing if there was; for, having once made the diagnosis, what is the use of exhausting the patient every day by trying to find out whether ⅛ of an inch, more or less, is involved? The general symptoms will tell that.—*Annals of Gynecology and Pediatry*, February, 1891.

MENTAL DISEASES AND MEDICAL JURISPRUDENCE.

By A. W. HOISHOLT, M. D., Assistant Physician, State Asylum for Insane,
Stockton, Cal.

Psychiatry in Its Relation to Medicine.- PROF. VON KRAFT-EBING says that every case presenting morbid psychic symptoms should be carefully considered by the general practitioner, and he should exercise all possible moral influence over his patient. As an illustration of psychic influence he mentions the cessation of hemoptysis when the longed-for physician appears, calming the excited heart and thus bringing about thrombosis of the bleeding vessels. Many diseases, as neurasthenia, hysteria and hypochondria, begin with psychic morbidity, and a knowledge of this is essential to their management. He regards it as necessary to the physician's education that he make the psychic features of a suffering patient the subject of investigation and render himself conversant with their manifestations. Twenty per cent. of all mental diseases are ascribable to the immoderate indulgence in alcohol, and he believes that the prophylaxis of these diseases is not to be achieved until a knowledge of mental disorders shall have become the common property of physicians and general society. Many a life presenting some inherited psychical abnormality has gone to mental ruin because the germ of the disease was not recognized in youth in the first stages of its development and not weighed in such a manner that, by proper education, by bodily and mental discipline and by correct choice of occupation, the development of the disease might at least be retarded.—*Journal of Mental aud Nervous Diseases*, February, 1891.

The Question of Compulsory Medical Examination.—The United States Supreme Court has lately decided, in the negative, the question of the power of a court to order a medical examination of a person by a designated examiner. The case appealed was a suit for damages for personal injuries brought by a lady against one of the great railway corporations. Two of the Judges dissented, but we presume it may be taken for granted that the humane decision mentioned is final. The absolute sanctity of the person, except in criminal cases, should admit of no question.—*New York Medical Journal*, May 30, 1891.

Suit for Non-appearance.—A case has recently been tried in Connecticut where the father of a boy, who had had his lip bitten by a dog, sued a physician, whom he had summoned, for refusing to attend the case, on the ground of a previous engagement. The claim was that by reason of non-appearance the boy suffered unnecessarily, and that the delay of medical attendance caused much more of a disfiguring scar than if prompt service had been rendered. The plaintiff won the suit, but only to the amount of $10.—*Boston Medical and Surgical Journal*, March 5, 1891.

FORMULÆ.

By Geo. B. Somers, M. D., San Francisco, Cal.

Retinol.—This new drug promises to be as valuable an addition to our pharmacopeia as vaseline. It has remarkable solvent powers, and is permanent, unirritating, antiseptic and desiccative. The following are suggested as desirable combinations:

Retinol	ʒ iiss
Lanolin	ʒ i
Bicarbonate of soda	gr. vii

Retinol	ʒ iiss
White wax	ʒ i
Cocoa-butter	ʒ iss

Retinol	
Rosin	
Lanolin	āā ʒ i

The last is of very good consistency. To these formulæ may be added such other substances as may be indicated.—*Medical and Surgical Reporter*, May 16, 1891.

Whooping-Cough.—The following treatment is largely used in Paris:

Tincture of aconite	
Tincture of belladonna	
Camphorated tinct. opium	āā ʒ i

S.—2 to 5 drops once or twice a day, according to the age of the child.

If there is no fever the aconite may be decreased. In the second period, when vomiting comes on, ipecac. is given in small doses, and in the third period, tonics—*Atlanta Medical and Surgical Journal*, May, 1891.

Ergot for Gonorrhea.—Roicki administers the drug by the mouth in the form of pills and by urethral injection, after the following formula:

Ergotin	gr. iv
Distilled water	℥viii

S.—Use as an injection several times a day.—*Medical News*, May 16, 1891.

Pigmentations of Pregnancy.—In the *Journal de Médicine de Paris* the following ointment is recommended to remove the pigmentations which so often disfigure pregnant women:

Yellow oxide of mercury	gr. ii
Oxide of zinc	gr. v
Castor oil	
Cocoa butter	āā ℥ii¼
Essence of roses, enough to perfume.	

S.—Rub on the affected parts twice a day.—*American Practitioner and News*, May 23, 1891.

Paraffin and Lanolin.—PASCHKIS has found that the special advantages of lanolin are increased when diluted with paraffin. The formula which he found best for a basis is:

Lanolin	66 parts
Liquid paraffin	6 "
Ceresin	1 "
Distilled water	65 "

Journal American Medical Association, June 6, 1801.

Pimply Acne.—Wash the affected parts well and frequently with warm soap suds. Express the contents of the pimples and apply the following mixture:

Sulphur	gr. xv
Tincture of camphor	ʒiss
Lime water	℥iiss

In place of the mixture the folling ointment may be used:

Sulphur	gr. xv
Carbolic acid	gtt. x
Potassium carbonate	gr. xv
Lard	℥i.

Pharmaceutische Post.

Chrysarobin in Psoriasis.—DR. UNNA recommends:

Chrysarobin	ʒss
Salicylic acid	gr. x
Ichthyol	ʒss
Vasleine	℥i

Make an ointment and rub into the affected parts.—*Nouveaux Rèmedes.*

PUBLIC HEALTH.

By W. R. CLUNESS, M.A., M.D., Sacramento, Cal.

Mortality.—The deaths registered in 67 town districts of the State during the past month, in a population of 701,836, correspond to an annual rate of 18.68 a thousand, the total mortality having been 1093. 185 deaths were due to zymotic diseases, giving an annual rate of 2.16 a thousand. Of these, 10 were due to cerebro-spinal fever, 2 to remittent and intermittent fever, 38 to typhoid fever, 5 to typho-malarial fever, 5 to whooping cough, 7 to measles, 6 to scarlatina, 34 to diphtheria, 62 to cholera infantum, and 16 to diarrhea and dysentery. 203 deaths resulted from diseases of the respiratory organs, giving an annual rate of 3.47 a thousand. Of these 141 were due to consumption, 45 to pneumonia, 12 to acute bronchitis and 5 to congestion of the lungs; the rate for consumption and pneumonia being 2.40 and .768, respectively. 83 deaths resulted from diseases of the heart, 12 from alcoholism and 45 from cancer. The average annual death rate from all causes, occurring in the ten largest cities and towns in the State, and representing a population of 610,000, was 11.49 a thousand. The highest rate for the month, occurring in cities having a population of 10,000 or more inhabitants, was reported from San Francisco; the lowest from San Diego.

METEOROLOGY.

By J. W. ROBERTSON, B.A., M.D., San Francisco, Cal.

Summary for July.—*Temperature.*—Extremely warm weather has prevailed all along the valley belt, the highest registered being 114°, at Fresno; but from many of the stations a temperature of 100° and over was noted. Along the coast the mean temperature was not above 60°, while the highest registered was but little above 80°. Owing to the humidity of the air, however, a temperature of 80° along the coast is as enervating as is one of 100° in the dryer valleys.

Rainfall.—The majority of the stations report but a trace or the fraction of an inch. July is preëminently a dry month, and, except in a few localities, the precipitation has not been excessive.

The Salton Sea.—The climatic changes which will result from the lake so recently formed in the deserts of Southern California, have been the subject of much popular discussion, and correspondents have given full play to a lively imagination in their surmises regarding the changes which are imminent. It is a fact that on the coast adjacent to this lake there has been an unusual, and, according to the oldest inhabitant, an unprecedented rainfall; but whether this is merely a coincidence or the direct result is not so easy to determine. Our knowledge of summer storms, and ability to predict them, is not an exact science. It is well known that the showers occasionally falling in summer are not connected with general cyclonic disturbances, but are due rather to local causes. Lieut. Finley seems to attribute but little influence to the lake so recently formed, and regards the heavy rainfall in the country adjacent as mere coincidences, nor does he believe that there will be any climatic change, even should there be formed a permanent inland sea, basing his opinion on the fact that in many portions of California, Nevada, and Oregon, in regions equally arid, there are lakes of large extent, and that they do not materially modify or differ from the climates prevailing elsewhere. When it is remembered, however, that this lake covers some 1,700 square miles, and that, at a moderate calculation, from each square mile some fifty millions of inches of water are daily absorbed, there must be an increase of aqueous vapor in the surrounding air, and if the circumstances were such as to be favorable to condensation, a greater precipitation could easily result. It is claimed that the topographical features of the country strongly favor such condensation, there being in close proximity an elevated mountain chain, beyond which the cool breezes from the ocean renders the air along the western slope decidedly colder. It is in these mountains that the recent cloudbursts have occurred. There has been a series of storms, and so far no more plausible explanation of such precipitation has been offered. It would seem that this region would be a far better field for the experiments now being conducted by the Government in its effort to produce artificial precipitation than the places so far selected. Granting that the hypothesis on which these experiments are being conducted is true, in order for them to succeed there should be a large amount of aqueous vapor in the air. Certainly the conditions surrounding Salton lake in this respect would be extremely favorable for such experimentation.

California—Tabular Statement for July, 1891.

STATIONS.	TEMPERATURE.						RAINFALL.		Mean Relative Humidity	WEATHER.			WIND.	FURNISHED BY—
	Mean.............	Highest	Lowest..........	Mean Highest..............	Mean Lowest..............	Mean Daily Range	No. of Days Rain Fell......	Total Rainfall...........		No. of Clear Days.....	No. of Fair Days...........	No. of Cloudy Days...........	Prevailing Direction.	
Auburn ....Cal.	------	------	------	------	------	------	----	------	------	----	----	----	--------	Southern Pacific Co.
Berkeley......... "	61.6	87.5	49.3	74.1	54.6	19.5	2	0.44	80.0	18	1	5	S.W.	Obs. Univ. of Cal.
Colfax........... "	76.0	102.0	51.0	------	------	------	2	0.90	------	----	----	----	--------	Southern Pacific Co
Eureka........... "	56.0	66.0	46.0	60.7	51.2	9.5	4	0.29	89.0	9	10	12	N.W.	W'thr Bur. Dep. Agr.
Fresno........... "	83.4	114.0	51.0	100.8	66.5	34.4	0	0.00	30.5	30	1	0	N.W.	" " "
Keeler. .... "	81.5	100.0	57.0	94.3	69.0	25.4	1	0.06	31.2	19	7	5	E.	" " "
Los Angeles.... "	73.7	109.0	54.0	86.4	61.0	25.4	0	T.	73.1	8	23	0	W.	" " "
Monterey .... "	------	------	------	------	------	------	----	------	------	----	----	----	--------	Southern Pacific Co.
Napa.......... .. "	65.0	91.0	48.0	77.2	52.8	24.4	1	0.18	67.0	26	2	3	S.	Sta. Napa Ins. Asylum
Oakland .... "	62.3	89.0	47.0	71.87	50.42	21.45	2	0.16	73.48	20	6	5	W.	Chabot Observatory.
Paso Robles.... "	------	------	------	------	------	------	----	------	------	----	----	----	--------	Southern Pacific Co.
Red Bluff....... "	82.6	112.0	54.0	97.5	67.6	29.9	2	0.17	38.0	28	1	2	N.W.	W'thr Bur. Dep. Agr.
Sacramento. ... "	76.4	106.0	52.0	92.3	60 4	31.9	0	T.	55.6	27	2	2	S.W.	" " "
San Diego....... "	68.8	88.0	58.0	75.0	63.1	11.9	0	T.	78.2	21	8	2	W.	" " "
San Francisco.. "	59.4	81.0	50.0	66.2	52.7	13.5	2	0.10	83.0	21	7	3	S.W.	" " "
Santa Barbara.. "	67.0	96.0	54.0	77.0	58.0	19.0	----	------	------	21	6	4	--------	Hugh D. Vail.
Santa Cruz...... "	67.1	92.0	50.0	------	------	------	0	0.00	------	----	----	----	--------	Southern Pacific Co.
Yuma..........A. T.	91 6	114.0	64.0	107.5	76.5	31.0	2	0.04	36.2	29	2	0	S.W.	W'thr Bur. Dep. Agr.

Blank (----) indicates data missing.

Occidental Medical Times.

JAMES H. PARKINSON, L. R. C. S. I., EDITOR.

COMMUNICATIONS are invited from all parts of the world. When necessary to elucidate the text, illustrations will be furnished without cost to the author.

SACRAMENTO: SEPTEMBER, 1891.

PULMONARY TUBERCULOSIS.

PART III—DIAGNOSIS.

"*Qui bene dignoscit, bene curat*" is a medical apothegm especially applicable to pulmonary tuberculosis. The recognition of early phthisis in those hereditarily disposed and bearing the stigmata of the disease, is easy. The *phthisical habitus*, long neck, pale skin, soft and voluminous muscles, long, flat thorax, with broad intercostal spaces, diminished panniculus, clubbed fingers, etc., constitutes a clinical picture which is unmistakable. The recognition of acquired incipient phthisis calls for acumen on the part of the diagnostician. Among all the symptoms of early phthisis, the demonstration in the sputa of tubercle bacilli is alone diagnostic. The tubercle bacilli may be detected even at a time when physical examination of the chest proves negative, and it is unfortunate that, with the simplified methods at our command, examinations for the bacilli are not more frequently made. The number of bacilli present in the sputum is not an absolute index of the severity of the tubercular process, although it is conceded that in general a large number of bacilli implies the rapid progress of the affection, and few bacilli are found in chronic tuberculosis. Nuttall, of Johns Hopkins, has recently perfected a method of accurately estimating the number of bacilli in a given specimen of sputum, which will prove of undoubted value not only in prognosis but in the therapeusis of tuberculosis.

While it is a fact that, as a rule, tubercle bacilli furnish the earliest evidence of tuberculosis, there are cases of the disease where frequent examinations of the sputa fail to demonstrate their presence. In acute miliary tuberculosis of the lungs, when tubercular patches are encapsulated, or when the bronchus communicating with the tubercular patch is obstructed, bacilli may be absent in the sputa. Their absence may be further noted in children who swallow their sputa, and in senile subjects whose enfeebled condition interferes with expectoration. A fact not generally known is that bacilli may be present in the alveoli of the pulmonary apices, yet their presence in the sputa is detected with difficulty, or not at all. How can we account for this? Forced expiration is attended by a recurrent passage of air into the upper lobes, because the thorax lacks contracting muscular tissue at its upper portion. In coughing, the air is temporarily placed under high pressure, and the expectoration of the bacilli from the apices will be prevented by a recurrent stream of air.

A single examination of the sputum failing to show the presence of the tubercle bacillus does not negative the existence of pulmonary tuberculosis; on the contrary, many examinations are necessary, owing to the possible occurrence of the conditions here referred to. When the bacilli are suspected to be few in number, the method of Biedert furnishes the best results: Mix 1 tablespoonful of sputum with 2 of water, and add 15 drops of caustic soda; cook until the entire mass is liquefied, when it is put into a conical glass, and allowed to remain for two days, but no longer. The sediment will contain elastic fibres and tubercle bacilli, and is stained for the latter in the usual way. In a few cases, where tuberculosis is suspected, but no sputa are furnished, two recent methods of diagnosis to meet the contingency have been recommended. The first consists in the administration of iodide of potash, which acts by liquefying the secretions of the air passages, and increasing them in the affected areas; in this way sputa are furnished. The second method, which was brought before the State Medical Society, at the meeting in Sacramento, by DR. ABRAMS, of San Francisco, is called "parenchymatous aspiration," and consists in introducing a hypodermic needle into the presumably affected lung, and by aspiration removing products which are stained for the tubercle bacilli.

Before the discovery of the tubercle bacillus by Koch, great reliance was placed on the demonstration of elastic fibres in the sputa for the diagnosis of early phthisis. While certain observations show that the elastic fibres are easier of detection than the tubercle bacilli by the beginner in histology, and that they appear as early as the tubercle bacilli in the sputa, elastic fibres do not show that the destructive process of the lung is tubercular. Thus, they are present in abscess and gangrene of the lung. Elastic fibres should only be diagnosed when they show an alveolar arrangement. Our experience has been that the tubercle bacillus is recognized not so much by its morphological appearance as by its color reaction to the usual staining fluids. The detection of the bacillus is easier and more reliable than the elastic fibres, which are frequently diagnosed by the tyro in microscopy, when, in fact, only accidental adventitious products are present.

As tuberculosis, in the majority of cases, begins in the pulmonary apices, it is evident that the greatest attention should be paid in the physical examination to those portions of the lungs. Percussion, in healthy persons, shows a remarkable uniformity in the height at which the apices rise on the two sides ; hence, any deviation from the normal is exceedingly suspicious. The comparative heights of the apices can only be determined accurately by careful topographical percussion. Auscultation of the apices is also of great value. Any departure from the normal vesicular murmur, whether it be diminished, increased, prolonged expiration or jerking respiration, is very suspicious. The results of percussion or auscultation are greatly enhanced by comparison between the two sides. In the examination of the apices it is proper to direct attention to a prevalent error not referred to in our textbooks. Even in health the apices of the lungs are in a condition of physiological atelectasis, and percussion, will, in consequence, give a slight dulness, and auscultation atelectatic crepitation. It is an excellent rule, before examination of the apices is made, to have the patient make repeated forced inspirations. In this way certain errors are eliminated that would otherwise be unavoidable.

Among other early symptoms of phthisis, the recognition of which are of great importance in diagnosis, are: fever, hemoptysis, diminished vital capacity of the lungs and loss in weight of the body. As a rule, elevation of temperature accompanies beginning tubercular infection; and in suspected cases thermometrical measurements made twice a day will be of great aid in diagnosis. The frequency of hemoptysis in phthisis is usually exaggerated. Hemoptysis, according to the statistics of Condie, occurred 87 times in 369 cases of phthisis, a percentage of 24. In 40 cases, or 11 per cent., it was the first symptom of the disease. In women, hemoptysis is of less significance and should never be considered diagnostic, unless associated with other signs. It has been recognized of late that hemoptysis is not the cause but the effect of pulmonary tuberculosis. The tubercles, developing in the walls of the branches of the pulmonary artery, render them less resistant, and, as a consequence, they burst, giving rise to hemorrhage. It is possible that hemoptysis may conduce to tuberculosis in those extremely rare cases, when, in consequence of an injury to the lung, blood is effused, which, failing to be absorbed, serves as a favorable nidus for the development of the tubercle bacilli. Diminished vital capacity of the lungs is advocated by certain writers as an important diagnostic sign. The vital capacity of the lungs is determined by means of the spirometer. We attach very little value to this sign, not only because the results with the spirometer are largely governed by the skill and practice of the patient, but because no absolute values of the vital capacity of the lungs exist in healthy persons. Loss in weight of the body, while of some importance in diagnosis, is not of absolute value; but weighing the body is of great importance in determining the advance or retrogression of tubercular phthisis.

THE TRANSACTIONS OF THE STATE SOCIETY.

The transactions of the Medical Society of the State of California for the year 1891, have been issued by the Committee on Publication, who have fortunately escaped the double labor of their immediate predecessors. The volume is the same size as last year, lacking two pages, but it differs from any previous issue in the character of its contents. With one exception the contributions are papers, and papers of more than ordinary merit. The old style "committee report" has disappeared, and instead we have a number of scientific articles most creditable to the Society. The innovation is very marked, and while enhancing the value of the transactions will also year by year add greater interest to the annual meetings. Though the fact is not mentioned, the committee has availed itself of the stenographic report of the discussions by THE MEDICAL TIMES, producing what is unquestionably the best volume that has ever been issued.

The committee publishes the following prefatory note:

> We feel it to be our duty to refer to the fact that several of the reports and papers read before the Society have already appeared in full in the *Pacific Medical Journal*, probably through some misapprehension on the part of its editor, and, therefore, according to our by-laws should not be published in these transactions. But the committee found that adherence to the rule would deprive the members of several of the most valuable papers, and render this volume anything but representative of the work done at your twenty-first annual meeting. It therefore decided to overlook the violation so far as republishing the material was concerned; but to urge the adoption by the Society of some rules which will more explicitly regulate such matters in the future.

We reproduce this in justice to ourselves, but the committee, while charitably and rightly overlooking "the violation" complained of, must realize that the rules are as explicit as it is possible to make them.

NOTES.

Transactions of the Medical Society of the State of California.

The twenty-first volume of the transactions of the Society has been mailed to every member in good standing. Members who have not received it, should inquire at their postoffice before writing to the Secretary, Wm. Watt Kerr, 600 Sutter street, San Francisco.

Membership in the American Medical Association.

It seems strange that, notwithstanding the general publicity given the matter, there is still a widespread ignorance regarding "membership by application." This is obtainable, at any time, by a member of any State or local Medical Society which is entitled to send delegates to the Association. All that is necessary is for the applicant to write to the Treasurer of the Association, Dr. Richard J. Dunglison, Lock Box 1274, Philadelphia, Pa., sending him a certificate or statement that he is in good standing in his own

Society, signed by the President and Secretary of said Society, with $5 for annual dues. Attendance as a delegate at an annual meeting of the Association is not necessary in order to obtain membership. On receipt of the above amount the weekly Journal of the Association will be forwarded regularly.

Mississippi Valley Medical Association.

This Association will hold its seventeenth annual meeting at the Pickwick Theatre, Jefferson and Washington avenues, St. Louis, October 14th, 15th and 16th. A full programme of interesting papers has been prepared, and provision has been made for the fullest, freest and most complete discussion of the same. Representative men from various sections of the country have been invited to open the discussions. The local profession of St. Louis is a unit to the end that every visiting physician shall be received and welcomed in a regular warm-hearted, St. Louis style. The same qualifications for membership are requisite in this Association as for the American Medical Association, the former being subordinate to the latter. Dr. I. N. Love, 301 N. Grand avenue, St. Louis, is Chairman of the Committee of Arrangements, from whom additional particulars are obtainable.

"Drunk or Dying."

This query has become a standing head in the English medical journals, and from the comparative frequency with which cases occur it would seem advisable that greater care should be exercised in these perplexing cases. The following, that recently occurred in San Francisco, emphasizes the necessity for increased precaution: John Mantalen, a cook by occupation, and a native of France, 57 years old, was arrested on the evening of August 13th, being found by an officer staggering and falling on the street. He was brought to the city prison in the patrol wagon, and next morning was removed to the city prison hospital. Dr. Berry, assistant police surgeon, examined the man, finding him unconscious with stertorous breathing, pupils of unequal size, and pulse full and rapid. He ordered ice to the head, hot bottles at the feet, and friction of the limbs. Dr. Berry pronounced the man to be in a dying condition, and seven hours later he expired. A *post-mortem* examination showed that there was a fracture of the skull. The Coroner's jury brought in a verdict of "death from fracture of the skull, caused by a fall." It will be conceded that no treatment could have averted the inevitably fatal result; still, in view of the facts subsequently developed, it would have been much more satisfactory had the victim been at first placed in the hospital. Cases of this kind require the keenest diagnostic skill, and the aid of considerable experience. It should, however, be an invariable rule that all insensible, or partially insensible, persons taken charge of by the police should be examined by the proper medical authority as soon as possible, and then kept under constant observation awaiting developments.

SOCIETY PROCEEDINGS.

SACRAMENTO SOCIETY FOR MEDICAL IMPROVEMENT.

Regular Meeting, July 28, 1891.

The President, J. H. PARKINSON, in the Chair.

Tumor of the Clavicle.—DR. T. W. HUNTINGTON presented a young man, 26 years of age, the subject of a tumor on the clavicle. It was about the size of a hen's egg, and had been growing for three months, and very rapidly. There was no history of an injury nor any evidence of tubercular trouble or of specific history. There were three views that might be taken regarding the case: (1) It was a periostitis. (2) An osteosarcoma, or less probably (3) An osteomyelitis. He regarded the loss of weight which the patient had suffered as very significant. He believed the growth was malignant, and would operate if the patient desired.

DR. G. L. SIMMONS regarded the tumor as malignant in character.

DR. W. R. CLUNESS believed that the growth was cancerous, the constant pain and rapid increase in size being indications of its malignancy. He would treat it as a periosteal inflammation, on the possibility of its being benign, and to determine its character.

DR. W. J. HANNA read a paper on the "Treatment of the Earlier Stages of Hip-joint Disease, with a Report of a Case."

DR. T. W. HUNTINGTON: Had hoped that the author would have entered more fully into the pathology of the earlier stages. Authorities agreed that however much traumatism might enter into the cause the result was always tubercular infection. There was first an osteitis, most cases commencing in the head of the bone. Rest with fixation is the only rational treatment. Many authors advise operative procedure by early incision into the tissues, and if necessary into the joint, especially if pain be severe. Some claim good results from trephining the head of the bone. Conservative treatment was most interesting in its results. In this case a boy, nervous, petulant and in great pain was relieved in 48 hours by means of rest procured by a plaster bandage. The Thomas splint is a most efficient appliance, and should be used as long as there is muscular spasm. The inner and upper portions of the acetabulum are absorbed through the pressure induced by spasm of the muscles, and the shortening of the limb indicates when the absorption is commencing. Taylor's and Sayre's splints are as good as Thomas's, but they are too complex; the latter can be made for $5.00.

DR. G. A. WHITE: The principle of fixation is an old one, and to obtain these conditions Thomas' splint is an excellent one. In a recent case, in which there was an abscess of the thigh, I removed four inches of the femur, and there is still some discharge. I am not enthusiastic over operation, as the boy's limb will be much shorter than if a cure could have been attained by splints.

Dr. G. L. Simmons: Had used Buck's extension apparatus many times with the same results. He placed the child in a crib using the side as a splint, and lowering the head to obtain counter extension.

Dr. W. R. Clunness remarked that we did not have as many cases of hip disease as in former years. The principle of treatment now employed was eminently correct, that of placing the joint at rest and removing pressure from the head of the bone.

Dr. W. A. Briggs: The pathology of these cases is that they invariably become tubercular, new tissue takes on tubercular trouble more readily than old, and in hip-joint disease in children we have the proper conditions. It is more than likely that the bacillus of tuberculosis is present in many parts of the body all the time, and in hip-joint disease the germs seek the affected parts. This explains why they become tubercular; local treatment is indicated first, and then such general measures as good nutrition, outdoor life, and exercise as will enable the system to cope with the disease. No apparatus will cure a case of hip-joint disease; it will relieve inflammation, and act as a prophylactic measure. To cure the case improve the nutrition, and if necessary trephine the head of the bone.

The President said the early recognition of disease of the hip-joint was most necessary, for very few cases would need operation if recognized in time and properly treated. The presence of certain definite symptoms should debar temporizing; operative procedures were at a disadvantage in these, as in all cases where constitutional infection was the primary cause. The neglected cases were certainly most deplorable.

Dr. Hanna, in replying, said there was nothing new in the treatment. Thomas states that in all the cases he has had there has been no occasion for operative procedure when the splint had been employed in time.

SAN FRANCISCO COUNTY MEDICAL SOCIETY

Regular Meeting, May 12, 1891.

The President, A. P. Whittell, M. D., in the Chair.

New Members.—Geo. B. Somers, M. D., and L. Redman, M. D., were duly elected members of the Society.

Chyluria.—Dr. G. W. Davis reported a case of chyluria occurring in a Chinaman, æt. 37 years (published at p. 488).

Dr. D. W. Montgomery had seen only one case. The patient was a female, a native of China, and the chyluria followed a severe attack of gonorrhea, which might have had some influence upon the disease, so far as the enlargement of the lymphatics was concerned. The urine did not clear up completely on the addition of ether, and no filaria, but only a milky hue, could be discovered under the microscope. In all probability chyluria was a symptom rather than a disease.

Dr. A. Abrams said that, in another case, where he had examined the urine, he could not find filaria in either the blood or urine. At the autopsy it was discovered that the patient had suffered from acute miliary tuberculosis, which affected chiefly the abdominal organs and glands.

Parenchymatous Aspiration.—Dr. Abrams said that in examining a case of sarcoma of the liver by this method, he had succeeded in obtaining the distinctive cells.

Dr. Leo Newmark mentioned that Frerichs had adopted this means of examination in diabetes, to discover whether glycogen was present in the liver.

Dr. D. W. Montgomery did not regard the method of examination as new; ever since the employment of the hollow needle, lung, liver and other solid tissues had been aspirated. He did not think it satisfactory in diagnosing the nature of solid tumors, as by it we could not learn the architectural formation of the growth, but only obtain a few cells, from which it would be extremely hazardous to make a diagnosis.

Dr. Abrams replied, that Dr. Montgomery had misunderstood him. He restricted the method to examination of solid structures, and the appearance of the cells was only one link in the chain of symptoms and physical signs which established a diagnosis. It was very useful in finding whether the bacillus was present in pulmonary consolidation.

Regular Meeting, May 26, 1891.

The President, A. P. Whittell, M.D., in the chair.

New Members.—C. H. Steele, M.D., and A. P. Woodward, M.D., were duly elected members of the Society.

Commissions on Prescriptions.—This question was brought up for discussion, and, after a very free expression of opinion, the following resolution, proposed by Dr. D. W. Montgomery, was unanimously adopted by the Society:

Resolved: That it is unprofessional and degrading to the character of the members of the medical profession to accept from a druggist percentage on his prescriptions.

Apparent Accommodation of an Aphakial Eye.—Dr. Kaspar Pischl read a paper upon the subject. He said that Helmholtz had proved that the eye accommodated by means of its lens; and, with Donders, had also shown that there was no longer accommodation when the lens was removed. The lens of the human eye equals a convex lens of about 11 d. An aphakial eye which had been emmetropic would require a convex lens of 11 d. in order to see distant objects clearly; and in order to see well at a distance of 25 cm. a convex lens of 4 d. must be added. After cataract operations patients generally use two sets of glasses—one for reading, and the other for seeing distant objects, as when walking, etc. Aged patients are sometimes able to read with their distant glasses by holding the paper further away and throwing the head back; while young patients can sometimes read fine print quite easily at 20 cm. For these reasons ophthalmologists have often doubted the statements of the great masters. Foerster and Schneller have urged the existence of accommodation in the aphakial eye, which has again been denied by Silex, though one of his patients could read fine print (Schweigger 0.4) at 20 cm. This boy [patient presented], who is 13 years of age, was operated upon in 1882 by the late Dr. Ferrer for congenital cataract of both eyes, by repeated needling. He came to me on January 19, 1891, complaining that since that morning he could not see as well with his right, or best, eye as before. Unfortunately, data as to the previous vision were unattainable. Examination showed that the left eye, with convex 12 d., could count fingers at 1 m., the deficiency in sight being due to thick secondary cataract. The right eye, with convex $12\frac{5}{30}$ d., could read Snellen 3.0 at same distance. The sudden diminution of vision in the right eye was due to the folding of the fine membranous secondary cataract, which I have seen once before. I performed discission on the right eye, and the lower part of the pupil is now free. A few days ago the right eye could see with convex $14\frac{5}{20}$, and read with the same glass Snellen 1.25 at 12 to 25 cm. The distant vision was therefore $\frac{5}{20}=\frac{1}{4}$; and the near vision $\frac{25}{100}=\frac{1}{4}$. Donders says "only when it is demonstrated that the visual acuteness remains the same within a certain interval, there can be a question of accommodation." This patient fulfils the requirement. Ophthalmologists are not agreed in explaining this interesting fact. These eyes have, probably, an unusual faculty of overcoming the dispersion circles, which are diminished by narrowing the pupil and palpebral fissure.

SPECIAL CORRESPONDENCE.

BOURNEMOUTH.

[FROM OUR OWN CORRESPONDENT.]

The Fifty-ninth Annual Meeting of the British Medical Association.—Bournemouth as a Health Resort.—Dr. Roberts Thomson.—The Annual Addresses.—Tuberculosis and Tuberculinose.—Alcohol as a Beverage and a Drug.—Dr. Samuel Wilks.—Social Features of the Meeting.—Distinguished Foreigners.—The National Sanitorium.—Hypnotism.—Sir Spencer Wells.—Mr. Lawson Tait.

The fifty-ninth annual meeting of the British Medical Association has been held this week in Bournemouth. The town is built on two lofty sandstone cliffs overlooking the sea, and the intervening valley is laid out as a public pleasure garden, shaded by Scotch firs older than the town itself, and at this season gay with flowers. These gardens stretch inland for several miles, until they are lost on a heathy common studded with firs, and affording as they do dry promenades sheltered in one or other part from every wind, constitute a special feature of Bournemouth as a resort for invalids seeking to escape from the inclemency of an English spring. Over and above its claims to be considered one of the best English health resorts for phthisical patients and invalids, who would in many places be confined to the house all winter, Bournemouth is remarkable in that it is a town built in a pine forest. Great pains are taken by the local authorities to preserve this character, and in building new houses the regulations require that a certain proportion of trees shall be preserved. In a town of 40,000 inhabitants there is necessarily a business quarter, but in the best residential parts—the West Cliff especially—the wooded character of the landscape is very remarkable.

The President of the Association, who took his seat at the first meeting on July 28th, was Dr. Roberts Thomson, the leading physician in Bournemouth. He proved an excellent chairman, conducting the business with tact, firmness and impartiality. The address in medicine was given by Dr. Lauder Brunton, who once more gave evidence of his keen sympathy with all the newest work in medicine and pathology, and of his unrivalled power of making the more abstruse results of experimental science clear and interesting to persons who have never been engaged in such researches. Professor Chiene, of Edinburgh, who gave the address in surgery, treated the supject of rest as a therapeutic agent from a thoronghly practical point of view. Dr. Edward Seaton, in his address on public medicine, traced the evolution of local sanitary powers in England.

There were not quite so many sections as at some previous annual meetings, and two of the sections only sat for two days. These innovations undoubtedly added to the interest of the sectional work; thus the section of diseases of children had two very successful meetings; on the first day infant feeding was introduced by Dr. Henry Ashby, and it appeared that the value of sterilized milk is at length beginning to make adherents in England. The discussion on the second day, on the treatment of empyema in children was introduced by Mr. Godlee in an able paper.

The unusual interest just now taken in the nature and treatment of tuberculous diseases was evidenced by the fact that no less than six spirited discussions on the subject took place in various sections. Dr. William Hunter had published in the *British Medical Journal* of the previous week a remarkable research on the chemical constituents of Koch's tuberculin, which had resulted in the analysis of this substance into three bodies, one of which, an albuminous, is capable of producing the local reaction of tuberculin without its injurious constitutional effects. A large audience, therefore, assembled in the surgical section to hear Mr. Watson Cheyne relate his clinical experience with this albumose in the treatment of surgical tuberculous affections. Some skepticism was not unnaturally expressed as to the future of this new remedy, but, nevertheless, further developments will be awaited with much interest.

The meeting-room of the section of medicine was crowded on Friday to hear a debate on alcohol. It was introduced by Dr. Samuel Wilks in a humorous speech which lasted nearly an hour, but was not a whit too long. He took a temperate, not a temperance, view of the much-debated questions aroused by the mere mention of alcohol, and the extreme temperance advocates, who were represented by Dr. Norman Kerr and Dr. J. J. Ridge, were perhaps not best pleased. Dr. Wilks contended that the case against alcoholic beverages, and *a fortiori* against alcohol as a drug, had been overstated, and that this had done great injury to the cause of true temperance. He spoke throughout with great weight and impartiality; lamented the present craze among physicians for recommending whiskey to replace beer or wine in the dietary of men accustomed to the latter beverage; pointed out the value of alcohol in the treatment of the restlessness and insomnia of old age, and insisted upon the different therapeutic values of wine on the one hand, and brandy and whiskey on the other, even contending that each should have a place in every national pharmacopeia as a drug.

Dr. Wilks, who is idolized by his old pupils, was entertained at dinner by old Guy's men attending the annual meeting, and a considerable number joined in paying this tribute to one who, more than any other man in this country, connects the pathology of the days of Bright and Addison with that of the days of Pasteur and Koch and the modern school chemical pathology.

Most men, however, will look back upon the Bournemouth meeting as a most enjoyable holiday spent in a beautiful town, among most hospitable people. The entertainments provided were numerous and well managed, and the hospitality of the President and his colleagues most lavish. There was an agreeable absence of those violent speeches, which have too often reflected anything but credit on the general meetings. The business was got through with completeness and dispatch on the first two days, and there was an absence of aimless talk and useless recrimination.

The number of foreigners present was not large, but among them were some distinguished men. Professor Semmola, of Naples, Professor Benedikt, of Vienna, and Professor Voisin, of Paris, returned thanks for the toast of the guests at the annual dinner. It was remarked that very few Americans attended; but perhaps this may be remedied in some future year, if, as is rumored, the Association is invited to Canada. The mention of Canada leads me to add that the British Colonies were well represented; and there can be no doubt that the Association has in the last few years gained ground fast in Greater Britain.

The sectional meetings were for the most part held in the National Sanatorium for Consumption and Diseases of the Chest, an institution which was established to serve as a convalescent home for the Brompton Hospital for consumption, but which has for some years enjoyed an independent existence. Some of the beds have been endowed and are now free, but the majority of the patients contribute the sum of 6 shillings a week towards the cost of maintenance. The general arrangements of the meeting were organized by one of the visiting physicians of this institution, Dr. Davison, who has won golden opinions by his courtesy and fertility of resource.

The section of psychology again discussed the burning question of hypnotism, which was introduced by Professor Voisin, who raised the question whether criminal acts or offenses could be committed in the hypnotic state. A resolution calling upon the State to control the employment of hypnotism was adopted after a temporizing amendment had been disposed of. This resolution was moved by Mr. Ernest Hart, who made his first public appearance after his voyage around the world, during which he was instrumental in obtaining the foundation of three branches of the British Medical Association in Canada. A resolution in favor of cremation was adopted in the Public Medicine Section after a debate introduced by Sir Spencer Wells. At the same time Mr. Lawson Tait, who, on the previous day, had been taking the President of the Royal College ot Surgery to task at the meeting of the College in London, was reading what, I understand, was a very excellent paper on median laparotomy in impacted hernia. I will here bring these desultory notes to an end, for I might easily occupy more space than you will be inclined to give in narrating other incidents of a most interesting week.

BOURNEMOUTH, July 31, 1891.

LONDON.

[FROM OUR OWN CORRESPONDENT.]

The International Congress of Hygiene and Demography.

The seventh International Congress of Hygiene and Demography was opened in London on Monday, August 10th. Writing before the Congress is over, it would be rash to say that it is or is not successful, but if the numbers attending are any criterion it is unquestionably the most successful of these functions yet held. The last meeting was held in Vienna in 1887, when a little over 1,000 members enrolled themselves; this year the number touched, it is believed, 2,000 on the first day. I say it is believed, for after noon the reception room was a scene of the wildest confusion; the members applying were altogether beyond the capabilities of the clerks provided, and the tickets of invitation and the books of abstracts were soon exhausted. Very loud and in very many tongues were the consequent complaints; it was late on Monday evening before the last applicant was satisfied, but before this St. James' Hall had been crowded to its utmost capacity to hear the Prince of Wales open the Congress as President. Upon the platform were assembled a considerable number of distinguished men, and a great many ladies, also a large number of gentlemen whose names are prominently before the public whenever hygiene is honored by public attention. The appearance of the Prince of Wales was preceded by that of Sir Douglas Galton wildly waving his hat, and the audience rose to its feet as the organist started the national anthem. The Prince read a very sensible speech of welcome, and Dr. Brouardel was most solemn and effective in his reply for the French delegates. Dr. von Coler, Director-General of the Prussian army, is the happy possessor of a magnificent voice, in which he roared out glowing compliments to the English pioneers of hygiene, perhaps implying by his silence as to our latter-day performances some doubt as to our still holding the foremost place. Professor Corradi, of Pavia, in a tremulous voice poured his thanks into the private ear of the Prince and his immediate neighbors. Dr. Roth, the Medical Chief of the Saxon army, gave a brief business-like address, and Herr Körösi, the Statistician of Buda Pesth, astonished his audience by beginning his speech in Hungarian and concluding it in English. Sir James Paget was graceful, as usual, in proposing a vote of thanks to the Prince, who replied, and then departed to the strains of "God save the Prince of Wales." On Tuesday the working arrangements in the reception room were going much better, and it was hoped that all susceptibilities had been soothed. The section of bacteriology, presided over by Sir Joseph Lister, was largely attended; Professor Miller's demonstration was extremely well done; the other sections had also had audiences, the total number of members being nearly 2,000.

LONDON, August 11, 1891.

GERMANY.

[FROM OUR OWN CORRESPONDENT.]

The New Institute at Berlin.—Adamkiewicz's "Cancroin."—Experiments with Cancer on Patients.—Triumphant Quackery.—Improved Milk Sterilizers.—Interesting Tumor of the Stomach.

The return wave of disappointment with regard to tuberculin has not been able to shake the confidence universally felt in Geheimrath Koch's abilities and single-mindedness, and the funds required for the establishment of an "Institute for the Study of Infectious Diseases," of which he is to be the director, were voted in the House of Delegates by a large majority, in spite of Virchow's protest at the all too-generous sums to be expended on this one department, vast indeed as compared with the notably meagre appropriations accorded to the other chairs at the Berlin University. Possibly, the members of the House wished to intimate that they do not hold Koch himself responsible for all the chagrin and disappointment experienced by so many on this subject. Ex-Minister von Gossler, who is certainly to blame for the undue precipitation in the publication, and for the unprecedented procedure of causing a secret remedy to be officially employed by the profession, has retired from the field, accepting the influential post of President of the Province of West Prussia, a thing not to be despised. The medical profession in Germany is indebted to him for a number of highly beneficial measures, and in spite of what now must be confessed a great mistake, will accord him a grateful memory. Of the other gentlemen connected with the discovery of tuberculin, Dr. Cornet has long since shut up his sanitarium at Charlottenberg for want of patients and has returned to his former practice in Reichenhall. Koch has laid down his professorship, as also the directorship of the Hygienic Institute, in order to devote himself entirely to his new appointment, but has received the title of Honorary Professor Ordinarius of the Berlin University, which honor confers on him the privilege of lecturing, if so disposed. His successor at the Hygienic Institute is Max Rubner, of Marburg. Thus, tuberculin is shelved for a while, as it were, but the hope still prevails that it will reappear in an improved shape in course of time, and that then the results will be more satisfactory.

Great umbrage is taken in German medical circles at the procedure of Professor Adamkiewicz, of Krakow, who claims to have discovered a remedy for cancer, termed by him "cancroin," and with which he has already treated a number of patients, evidently with much success, but the nature of which he keeps strictly secret. It is considered that the secrecy observed with regard to tuberculin was in a manner sanctioned and justified, while Prof. Adamkiewicz's reasons for withholding the full publication of his discovery can be merely personal. But as Schiller says, (in a somewhat feeble though literal translation):

> "Herein lies the curse of evil deeds,
> That, fruitful, they must evil aye bring forth."

So the departure from the strict rules of medical ethics has already produced a sequel.

Altogether it would seem that the study of cancer stands under an unlucky star just now. Professors Hahn and von Bergmann have also been in trouble in connection with the subject. It appears that Dr. Hahn had implanted portions of cancerous tissue, in a person suffering from metastatic cancer, under the healthy skin, and had also tried a number of times to cover ulcerated carcinomata with healthy skin. These experiments, which were attended with positive results, were alluded to by von Bergmann at a meeting of the Berlin Medical Society, he at the same time mentioning having made similar and equally successful attempts. This came to the knowledge of a young lawyer, Assessor Leidig, who took the two gentlemen severely to task, charging them with having frivolously experimented on human beings, without the knowledge or consent of the persons themselves, and demanding an explanation, in the daily papers. This was calmly ignored by the professors, but the matter was suddenly taken up by the Cultus minister, Count von Trützsehler, who commanded an answer within 24 hours. The affair having become so public, produced some little excitement, but it has now been allowed to rest, most of the members of the Medical Council, to whom the matter was referred for consideration, having left Berlin for their summer vacation.

In another case of the action of the law against medical men the result was not so satisfactory to the latter, and as the matter involves some peculiar points, I will give them in detail. There lives in Leipzig a certain *naturheilkundiger* (*i. e.* quack), who professes to heal all diseases without the aid of drugs by simply helping nature to throw off the illness. No doubt, a highly laudable endeavor, and one which, as a matter of fact, all doctors aim at. This man, Louis Kuhne by name, originally a carpenter by trade, has discovered a wonderful method which he calls friction baths. The procedure is described in a periodical, *Die Neue Heilkunst*, as follows: The patient seats himself on a board placed over a tub of water, so that his (or her) genital organs are near the water, but do not touch it. Then a piece of coarse linen is dipped into the water and the patient (if a man), pushing the prepuce well over the glans penis, proceeds to rub it briskly with the wet cloth. Female patients are instructed to rub the labia majora in a similar manner. Now, although such an idea makes one's hair stand on end, simply to read of it, it is not permissible to call the author of it bad names, as will be seen. Dr. Kormann, of Leipzig, wrote an article in a medical paper, on quacks in general and this one in particular, warmly denouncing their ignorance, covetousness and unscrupulousness in very forcible terms, whereupon a lawsuit was promptly entered against him and the editor of the paper by Kuhne for defamation of character. The defendants were found guilty of the offense and were sentenced to a fine and costs. On an appeal to a higher tribunal, the sentence was not only confirmed, but the fine was considerably increased. No doubt, the decree was according to the law, but it does seem hard that in such a case one cannot call a spade a spade without having to pay heavily for it.

In a former letter I have mentioned Professor Soxhlet's method of sterilizing milk for infants. The subject is one of so much importance that I think it worth while to describe the inventor's latest improvement in this department, in the manner of hermetically closing the bottles after sterilization. Your readers will be aware that the apparatus consists simply of a large can with a tightly-fitting lid, in which a stand holding a number of bottles full of milk is placed, the can being partly filled with water. Originally, the bottles were closed by perforated rubber stoppers, complete occlusion being obtained by inserting short glass rods through the openings. This plan was open to several objections, of which the chief one is that the stoppers suffer by the heat and gradually become leaky. A great many other methods have been suggested, but as Prof. Soxhlet pertinently remarks, they all bear evidence of being the inventions of *single* men, unacquainted with the difficulties and dangers encountered in a real, living nursery. The Professor's newest invention is really perfection for simplicity and efficacy, and perfectly fulfils the requirements of acting *cito tuto et jucunde*, as everything in medical practice should. The closing is effected by laying an accurately-fitting circular plate of rubber on the orifices of the bottles, and round the necks a short metal tube to keep the plate from falling off during the process of boiling. When the can is removed from the fire the reduction of temperature thus induced is sufficient to effect a notable reduction of pressure in the bottles, in consequence, by suction action the plates are made to adhere firmly to the necks of the bottles, the difference of pressure being further shown by a little central concavity appearing in the rubbers. Thus the bottles are sealed hermetically. When they are to be opened it is only necessary to raise one edge of the plate so as to allow air to enter, which is the easiest thing in the world, whereas simply shaking the bottle has no effect whatever. The rubber plates and the bottles, which are made with an especially broad and flattened neck, are manufactured by the firm of Metzler, in Munich, who supply the improved apparatus at the same moderate rates as the old ones.

At the Medical Society of Munich an exceedingly rare and peculiar disorder was recently exhibited by Professor Bollinger, a hairy tumor in the stomach and duodenum. During life, the patient, a girl of 16, had presented symptoms of chronic gastritis, which gradually increased in severity, so that about a year before her death, on a large hard tumor being discovered in the gastric region, a diagnosis of malignant neoplasm of that organ was made. *Post-mortem* examination revealed the following conditions. The whole stomach and duodenum were completely filled with a dense mass of interlaced brownish hairs, varying in length from about 3 to 10 inches. This mass so entirely filled the whole lumen that it was not possible to drive even fluids through the viscus although exerting great force, and it is difficult to comprehend how food, (which indeed towards the end consisted merely of milk, beer and water in minute quantities) can have passed into the intestines during the last weeks of the patient's life. As to the origin of this strange affection, the mother stated that the girl had formerly been in the habit of pulling out hairs from her head and drawing them through her mouth; that she had been severely reprimanded for so doing, and that she had desisted from the habit since attending school. She had never been known to swallow hairs, so she must have carefully avoided observation while indulging in this strange and dangerous diversion. Perversion of appetite of this kind is exceedingly infrequent. Not more than eight cases have hitherto been placed on record; of these all but one, which was successfully operated on by Schönborn, (Würzburg) terminated fatally, and none of them were correctly diagnosed during life. It is well known that many domestic animals are occasionally subject to the impulse of swallowing utterly indigestible things, *e. g.*, dogs in the course of hydrophobia, cows during gravidity, etc. In human beings the disposition must be classed among the abnormal cravings experienced by hysterical persons and pregnant women. Sometimes the impulse of imitation leads to it. In Professor Schönburg's case, the patient, a little maid from school, said the whole class used to swallow bits of hair with great zeal, as the idea prevailed that they improved their voices in this manner.

August 5, 1891.

MEDICAL NEWS.

LICENTIATES OF THE BOARD OF EXAMINERS.

At a meeting of the Board of Examiners, held Aug. 4th, 1891, the following physicians, having complied with the law and the regulations of this Board, were unanimously granted certificates to practise medicine and surgery in this State:

C. F. A. Francis, Oakland; Univ. of Vermont, July 19,'86.
Frank L. Talcott, Los Angeles; Med. Dept. Univ. Vermont, June, '85.
P. N. Russell, Missouri Med. Coll., March 6,'88.
A. G. Haygood, Jr., Los Angeles; Vanderbilt, Univ., Tenn., March 1,'91.
Geo. K. Mark, Armond; Trinity Med. Coll., Toronto, Canada, April 7,'91.
Frank M. Coppel, Perris; Jefferson Med. Coll., Pa., April 15,'91.
J. L. Hennemuth, Oakdale; Univ. of Minnesota, June 5,'90.
Eustorjio Calderon, San Francisco; Univ. of Zurich, Switzerland, July 25,'87.
Thos. Milam, Oakland; Univ. of Louisville, Ky., March 1,'77.
J. H. McLaughlin, San Francisco; Kentucky School of Med., Louisville, June 30,'91.
S. Zussman, San Francisco; Univ. of Strassburg, Germany, May 3,'88.
Wm. M. Amos, Pomona; Coll. Phys. and Surgs., Keokuk, Iowa, Feb. 23,'71.
Louis H. Wurtz, Los Angeles; Cincinnati Coll. Med. and Surg., Ohio, June 23,'74.
Albert B. Powell, Los Angeles; Med. Dept. Univ. So. California, May 26,'91.
Wm. M. Whittington, Riedley; Missouri Med. Coll., March 4,'80.

CHAS. C. WADSWORTH, Secretary

Official List of Changes in the Stations and Duties of Officers serving in the Medical Department of the U. S. Army (Division of the Pacific), from July 16, 1891, to August 16, 1891.

The telegraphic instructions of this date, directing Assistant Surgeon James C. Worthington, Post Surgeon, Port Townsend, to proceed without delay to Seattle, Wash., and return, for the purpose of examining recruits enlisted for the 14th Infantry are confirmed. Par. 4, S. O. 115, Dept. of the Columbia, July 30, 1891.

Official List of Changes in the Medical Corps U. S. Navy (Pacific Station) from July 20, 1891, to Aug. 20, 1891.

Medical Inspector C. H. White, from U. S. S. "Baltimore" to U. S. S. "Pensacola."

Medical Inspector G. H. Cooke, from "Pensacola" to "Baltimore."

Passed Assistant Surgeon F. W. F. Wieber, from U. S. S. "Charleston" to U. S. S. "Pensacola," and granted leave.

Passed Assistant Surgeon F. A. Hesler, from "Pensacola" to "Charleston."

Passed Assistant Surgeon J. S. Sayre, from U. S. S. "Ranger," to China Station, on "Charleston," and report for duty on "Palos."

Passed Assistant Surgeon J. W. Baker, from "Palos," and ordered home.

ITEMS.

An Army Medical Board will be in session in New York City, N. Y., during October, 1891, for the examination of candidates for appointment in the Medical Corps of the United States Army, to fill existing vacancies. Persons desiring to present themselves for examination by the Board will make application to the Secretary of War, before September 15, 1891, for the necessary invitation, stating the date and place of birth, the place and State of permanent residence, the fact of American citizenship, the name of the medical college from whence they were graduated, and a record of service in hospital, if any, from the authorities thereof. The application should be accompanied by certificates, based on personal knowledge, from at least two physicians of repute, as to professional standing, character, and moral habits. The candidate must be between 21 and 28 years of age, and a graduate from a regular medical college, as evidence of which his diploma must be submitted to the Board. Further information regarding the examinations may be obtained by addressing the Surgeon-General U. S. Army, Washington, D. C.